THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR OCTOBER 1858.

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ART. I.—*Veratrum Viride as an Arterial Sedative.* A Mutual Paper made up of Contributions from the Members of the Middlesex East District Medical Society, Massachusetts. Compiled for the Society by EPHRAIM CUTTER, M. D., of Woburn, TRUMAN RICKARD, M. D., of Woburn, and WILLIAM INGALLS, M. D., of Winchester.

IT has been said that he who causes two blades of grass to grow where before there had been but one, is justly entitled to be called a public benefactor. How much more, then, does this honourable appellation belong to him who extends the boundaries of therapeutics, who increases the number of truly valuable remedial agents, thereby adding strength to the panoply wherewith we seek to break or turn aside the shafts of disease and death. It has ever been the belief of some that nature has in store an antidote for every disease to which the human race is subject. Be this as it may, one thing is certain—if we interrogate her within her hidden retreats, and seek to extort truth from her grasp by the tortures of the retort and the crucible, she has been wont not seldom to reward our labours and our researches by disclosing to us facts not only of the highest interest to science, but often of untold value to the health and well-being of mankind.

The thought must have occurred many a time to the experienced practitioner, while looking anxiously upon the wasting and unchecked ravages of fever, by whatever cause produced, that could he summon to his aid some potent remedy, the sure effect of which would be a marked reduction in the frequency of the pulse, without danger to life, he would have it in his power to exert a control over the disease, and render the restoration of his patient more sure and speedy.

Among the recent additions to the Materia Medica is to be reckoned the

VERATRUM VIRIDE. As early as 1835, Dr. Samuel Osgood, of Providence, R. I., a pupil of Prof. Tully, of New Haven, called the attention of the medical profession to this plant, by an article in the *American Journal of the Medical Sciences* (vol. xvi. p. 296). Even before that time its properties were not wholly unknown, and it was used, to a limited extent, in certain diseases, particularly rheumatism. Nevertheless, it ere long fell into disuse, for the reason, it may be, that it failed of proving a specific in rheumatism, while colchicum, whose star was then in the ascendant, bid fair of attaining to that distinguished honour. Some seven or eight years ago, attention was called anew to the American veratrum by Dr. W. C. Norwood, of Cokesbury, S. C. Articles appeared occasionally in some of the medical journals, respecting its properties. In November, 1856, the Middlesex East District Medical Society, in Massachusetts, had its attention invited to it by one of its members, and a quantity of the tincture was prepared by him and distributed among them for trial. Since that time they have been in the constant use of it, with results which they deem very important. Much valuable testimony has accumulated upon the pages of their note-books, proving conclusively, to their minds, its reliability as an ARTERIAL SEDATIVE in most inflammatory affections. In March, 1858, the Society appointed the writers of this article a committee to bring this remedial agent to the direct attention of the Massachusetts Medical Society by distributing a quantity of the tincture among its Fellows. Accordingly, they prepared and presented a bottle of the tincture to each member present at the annual meeting in May last. Accompanying each bottle was a brief circular, containing certain leading facts derived from the experience of the District Society. For additional testimony reference was made to the cases which make up the most important part of this paper. Aware that new remedies, brought forward with no sufficient guarantee of their merits, are received by the profession with a degree of distrust, they adopted this course, believing that a trial alone was needed to establish the medicine in the confidence of their medical brethren. It is an interesting fact that it has already been subjected to a widely extended and close scrutiny—a scrutiny such as has seldom befallen any other article of the materia medica within the same period of time—and that, too, with results the most pleasing and satisfactory. We question whether there is any one who has given it a fair trial, who does not regard it as worthy of taking its rank among the few therapeutical agents upon which physicians may place the strongest reliance when contending with giant diseases.

Botanical Characters.—VERATRUM VIRIDE, Ait. (V. album, *Michx.*) *American White Hellebore, Indian Poke, Meadow Poke, Itch Weed.*—The American veratrum belongs to the natural order Melanthaceæ. The stem is stout, very leafy, from 2 to 4 feet high; leaves broadly oval, pointed, sheath-clasping, strongly plaited, of a yellowish green colour, the lower from six inches to a foot long; inflorescence paniculate, panicle pyramidal, the dense spike-like racemes spreading, perianth yellowish green, spreading. Grows somewhat

abundantly in swamps, moist meadows, open woods, and along the banks of mountain streamlets, from Canada to Georgia. In New England it begins to send up its leaves early in April, and blossoms the latter part of May, continuing in flower till July. According to Dr. Gray, this species is very closely allied to the V. album, the true *white hellebore*, a native of the mountainous regions of Central and Southern Europe.

Part used.—The officinal part is the root, consisting of a thick, fleshy rhizoma, tunicated above, while the lower part is solid, sending off numerous long white or yellowish-white radicles. These are smaller and whiter than those of the *symplocarpus fœtidus*, by the side of which it very frequently grows.

Physical Properties.—The root, both in the green state and when dried, has a sweetish bitter taste, and produces a burning sensation in the mouth, upon the tongue, in the fauces and throat, together with a sensation of dryness and heat, extending even to the stomach, and continuing for a considerable time. When dried and powdered, it acts as a powerful sternutatory and errhine, causing an abundant flow from the Schneiderian membrane. Applied locally, it is capable of producing irritation, rubefaction, and even vesication of the skin. (Wood, *Therapeutics and Pharmacology.*)

Chemical Composition.—From a careful analysis, Mr. Henry Worthington (*American Journal of Pharmacy*, vol. x. p. 97) found the root of the *V. viride* to contain gum, starch, sugar, bitter extractive, fixed oily matter, colouring matter, gallic acid, an alkaloid substance identical with veratria, lignin, and the salts of lime and potassa. According to Griffith, the veratria exists in the form of a super-gallate. The alkaloid principle is very nearly insoluble in water, more soluble in ether, and entirely soluble in absolute alcohol. This shows that high-proof alcohol should be used in preparing the tincture.

Time of Collecting the Root.—The proper time for collecting the root is late in the fall, after the decay of the leaves and stalk. The Middlesex East District Society, however, have used specimens of tincture prepared from root dug in the fall, and also from that dug in the spring, without discovering any appreciable difference in the strength of the preparations.

Preparation of the Tincture.—The following is the manner in which the tincture, presented by us to the Massachusetts Medical Society, was prepared. The root was dug in the month of April, just as the leaves were beginning to make their appearance. After being thoroughly cleansed by repeated washings, the fleshy portions were sliced into quarters, without separating the radicles from the rhizomas. About a bushel of these cuttings at a time were put into a common flour-barrel, prepared by removing both heads and substituting a diaphragm of coarse cloth, about three and a half inches above the chime. The diaphragm was extended upon a hoop, and this was kept in place in the barrel by resting upon nails projecting through holes made in the staves. The barrel, thus prepared and charged, was placed over the register of a common house furnace, by which means the mass of roots was permeated

constantly by a current of heated air. At the end of about twenty-four hours they became sufficiently dry, and were replaced by a fresh lot. The comminution was effected by breaking up the thick pieces with a pestle and mortar, and then passing the whole through a small coffee mill. Pulverization as fine as this, however, is not necessary. The ground root was then macerated a few days in 94.1 per cent.—common burning fluid—alcohol. It was the intention to employ eight ounces of the dried root to each pint of the menstruum, but it was found that eight ounces of the ground veratrum could not even be wet with a pint of alcohol. Consequently the proportion was reduced to about four ounces to the pint. We believe that the tincture thus produced is sufficiently strong for ordinary use. A greater strength could easily be secured by evaporation, if desired. After maceration, a portion of the tincture was displaced by 94.1 per cent. alcohol one part, and water one part. Additional liquid was obtained by subjecting the wet mass to strong pressure under a powerful screw. By these means there resulted from twenty pounds of dried root about ten beer gallons of tincture.

The preparation thus obtained possesses the physical properties of the article heretofore used by the Society, and upon trial was found to produce the same therapeutical results.

Therapeutical Effects.—The veratrum viride was subjected to trial in this Society, in the first place, to ascertain whether the New England plant possessed the properties ascribed to that growing in the Middle and Southern States. The result showed very conclusively that it is not at all inferior to that growing in warmer regions, while there is some reason to believe it is even stronger.

It is as an *arterial sedative* that we have employed this agent. Although possessing great power and virtue, it is by no means a specific, nor will it cure, or even benefit every disease to which the human frame is subject. Indeed there could be no surer way of bringing it into disrepute and neglect, than by claiming *too much* for it. We have derived satisfactory results from its use externally as well as internally, but we wish this one idea to be kept distinctly before the mind, that the good resulting from its use is essentially due to its sedative power over the circulatory and nervous systems. In respect to the particular diseases in the treatment of which we have found the veratrum an invaluable agent, the reader is referred to the cases which follow, being from notes recorded at the bedside of the patients during the daily visits of their medical attendants.

Dose.—The dose of the tincture thus prepared, and as we employ it, is as follows: For infants, ½ to 2 drops; children, 2 to 5 drops; adults, 3 to 10 drops—every two hours, or *pro re natâ*. When the characteristic effect is not produced upon the pulse, and nausea, vomiting or diaphoresis do not supervene, the dose may be cautiously increased, while the effect is carefully watched. If either of the results last mentioned are secured, a diminution of the dose, or a temporary suspension of its use, would be proper.

General Remarks.—The tincture of the veratrum viride has given great satisfaction to those who have fairly made trial of it. Were it not our design to confine ourselves to the testimony of our own Society, we could add the names of many men, eminent among the physicians of our country, who have employed it with the most beneficial and gratifying results. From its use by the members of the Middlesex East District Society, we derive three important conclusions, which we desire strongly to impress upon the minds of all who may read this article.

It is *reliable.* As an ARTERIAL SEDATIVE, the Society has found it more certain than any other medicine of the class. In some cases, however, from idiosyncrasy or other cause existing in the patient, the dose must be pushed beyond the directions given, both as to quantity and frequency.

It is *safe.* The first indication of a sufficiently full use being nausea and diaphoresis, one or both; these effects show when it has been carried sufficiently far, and a diminution of the dose, or a suspension of the medicine is temporarily demanded.

It is not a *specific,* as was claimed by those who brought it forward several years ago, and even by some, recently. All that we claim for it is, that it is an arterial sedative of great power and reliability.

A minor, though important consideration in connection with this medicine, is the fact that it grows abundantly in all parts of the country, rendering it easy for every practitioner to prepare the tincture for himself. This will obviate the necessity of paying an exorbitant price for it, under the pretence of its being a new remedy.

From the well known drastic action of the veratrum album, it was presumed that the American veratrum possessed similar cathartic properties. But the reported experience of almost all who have tested the action of this medicine, goes to establish the fact that it *very seldom, if ever purges.*

Literature of the V. Viride.—For the convenience of those who may wish to examine what has been written respecting this plant, we subjoin the following references. This is by no means a complete list, however, and we would gladly increase it, had we the references within our reach.

Kalm's Travels; Thatcher's Dispensatory, p. 360, as V. album; *Bigelow's Med. Bot.,* ii. 121; *Rafinesque's Med. Flora,* ii. 273; Osgood, *Am. Journ. Med. Sci.,* xvi. 196; *Am. Journ. Pharm.,* vii. 202; ix. 181, and x. 89; Griffith, *Med. Bot.,* 643; C. A. Lee, *Cat. Med. Pl. N. Y.,* 58; Wood and Bache, *U. S. Dispen.,* 734; Wood, *Therap. and Pharmacol.,* ii. 152; *Trans. Am. Med. Assoc.,* ii. 837; v. 890; Dunglison, *Therap. and Mat. Med.,* ii. 195; Ellis, *Med. Form.,* 39; Pereira, *Mat. Med.,* ii. 103; *Boston Med. and Surg. Journ.,* lvi. 509; Dewey, *Herb. Pl. Mass.,* 205, etc., *passim.*

The succeeding portion of this paper embraces the evidence which the Middlesex East District Society offers in favour of the veratrum viride as an arterial sedative. It has been divided into general and special.

General Evidence.—William Ingalls, M. D., of Winchester, thus writes: In functional and organic disease of the heart, in measles, scarlatina, pneumonia, typhoid fever, and other diseases and conditions of the system, attended by high arterial action, I have found the veratrum viride most reliable in combating that particular symptom, and it need hardly be added, that the headache, restlessness, and other attendants upon an excited circulation will, almost always, yield with that. In a great number of instances I have given it, intentionally, in repeated doses until it has produced vomiting, both in children and adults, and in no one instance has any alarming effect been produced by it. I always inform the nurse or attendant what effects may be expected from its administration, and order them to lessen or increase according to circumstances; this I mention because some have said that this medicine needs much watching, and one in full practice cannot give it. It is true that it has had most vigilant watching from the gentlemen of this Society, and they are well repaid for bestowing it. But let me ask if we ought not to watch the effects, as narrowly as possible, of all the medicines we give and the remedies we employ? Have we indeed learned everything about the action and effects of those agents we most habitually employ?

Benjamin Cutter, M. D., of Woburn, remarks: During the year and a half past I have used the veratrum many scores of times, in various diseases, by itself, and in conjunction with other remedies, and I am ready to acknowledge my satisfaction with its medicinal powers in general, and to admit that the longer I use it the better I am pleased with it. Its efficacy I have found more marked in some diseases than in others. Thus, its controlling power is most manifest in inflammatory affections of the chest and of the uterus, and in febrile excitements attended with headache. Many of these complaints can be quieted down and removed entirely by the use of this medicine alone in a very short period of time.

I have used the tincture diluted with two parts of water as an external discutient application in many cases of inflammation of the skin and areolar tissue, and of the mammary glands, with very satisfactory results.

I have rarely seen any unpleasant, certainly no dangerous, symptoms from its use, and think that it is not cumulative in its effects so as to need the close watching that digitalis requires.

If the dose is too large, besides the slowness of the pulse always found, there will be nausea or vomiting and sweating.

Should there be too much depression by an overdose, it can be speedily relieved by alcoholic stimulants or opium.

Should it be thought necessary to give a full dose of half a fluidrachm in acute rheumatism to an adult at once, it can be done with perfect safety; at least, I have so used it.

Scarlatina appears to be less controlled by the veratrum than any other disease in which I have employed it. But still it is not without value in the

treatment of this disorder, for which its arterial sedative quality would seem to render it peculiarly adapted.

Canker spots upon the tongue and inside the cheeks are sometimes observed in connection with the use of the veratrum, and have been ascribed to its administration. More observations are required to establish this supposition, to which the attention of practitioners is thus directed.

Cataplasms, in which varied amounts of the pounded root of the veratrum were incorporated, are convenient applications to inflamed feet and legs, and were favourite prescriptions of my medical teacher, in such cases, thirty years ago.

Alonzo Chapin, M. D., of Winchester, writes, March, 1858: Since the attention of this society was first called to the veratrum viride, some year and a half ago, I have made very constant and frequent use of it in my practice, prescribing it in almost all cases where there was undue arterial excitement, and have at length come to rely upon it as quite indispensable. In cerebral, thoracic, abdominal, and inflammatory diseases generally, causing increased arterial action, the *veratrum viride* has enabled me to subdue and almost control it at will. I have considered it of special value in lowering the pulse where excessive muscular and nervous prostration forbade venous depletion.

In some cases where thoracic inflammation supervened upon typhoid fever, it was of peculiar service. So far as I have taken notes of its effects, I find them quite in harmony with the notices published in the medical journals.

I frequently found the pulse reduced forty to sixty beats a minute in the course of twelve to eighteen hours. Tilden's extract and the saturated tincture have both been used by me, and I have seen no perceptible difference in their effects. I have usually given from three to eight drops once in three hours, sometimes alone, and frequently combined with other remedies.

Richard L. Hodgdon, M. D., of West Cambridge, writes: I have found the frequency of the pulse diminished by the veratrum viride whenever nausea is induced, *except in cases of cerebral disease.* I have used it in pneumonia, pleuritis, erysipelas, and scarlatina. I employ the concentrated tincture prepared by Keith & Co., of New York. In fact, the veratrum in my practice has almost displaced the use of the tart. ant. et potas. The dose I prescribe is one to one and a half drop for a child of a year or less; for an adult, five drops repeated every two, three, or four hours as required.

Horace P. Wakefield, M. D., of Reading, states that he has used the veratrum viride as an arterial sedative, and that he has found it a reliable article, unless he was deceived by a series of remarkable coincidences. In every case, he has found the pulse to come down. He deems the veratrum viride the most powerful arterial sedative with which he is acquainted; far superior, in his experience, to digitalis.

Truman Rickard, M. D., of Woburn, testifies: I have used the veratrum viride in many cases of which I kept no notes, with results exceedingly satisfactory. In a few cases, when I began to use the article, I was disappointed

in the results, as it did not come up to my expectations. But I am now satisfied that the cause of failure was the smallness of the doses. Of its value in controlling arterial excitement, there can be no question.

SAMUEL A. TOOTHAKER, M. D., of Wilmington, writes: I have made trial of the veratrum to some extent, but not having taken notes, am unable to give the exact items. In scarlatina and typhus, it has failed to reduce the pulse, but a rapid diminution of frequency has followed its use in pneumonia and other inflammatory diseases.

EPHRAIM CUTTER, M. D., of Woburn, writes: I am satisfied that the veratrum viride is an arterial sedative, having used it as many, if not more times than any other medicine. I do not rely upon it to the exclusion of other well-known and tried agents, but would look to it first.

Special Evidence.—In functional and organic diseases of the heart, the veratrum viride has been used with much satisfaction.

CASE I.—*Palpitation.* (Reported by TRUMAN RICKARD, M. D.)—Miss L. R., aged 51, had been troubled with palpitation for several days. Proposed to her to try veratrum viride. She laughed at the idea, but consented to take it. Gave her six drops. In an hour or two she said she was really better. The tincture of veratrum viride was continued in doses of gtt. iv, three times daily, for two or three days with marked benefit. The palpitation was connected with spinal irritation.

CASE II.—*Palpitation.* (Reported by EPHRAIM CUTTER, M. D.)—1857, *Dec.* 18. Mr. A. S., lithographer, 44 years of age, has had palpitation for some time. Latterly, it has increased. The first sound of the heart, after exertion was prolonged, and was heard loudest toward the apex. The præcordial dulness was embraced within the third rib, a line half an inch inside of left nipple and the middle of sternum. Pulse 72. He was put upon the tincture of veratrum viride gtt. vj, thrice daily, besides stated exercise and Hoffmann's anodyne, *pro re natâ.* On the 26th, he reported considerable relief.

CASE III.—(Reported by the same.)—Miss K., a pale, sickly girl of 18, by the use of the tincture of veratrum viride in the usual doses, was relieved from the annoyance of palpitation and dyspnœa on exertion.

CASE IV.—(Reported by the same.)—A married woman, of nervous temperament, 22 years of age, with a phthisical tendency, complained of dyspnœa, with pain in the præcordium and left hand on exertion. She used the veratrum with benefit. Tonics also were employed.

CASE V.—(Reported by the same.)—*June* 25, 1857. P. E——, an adult, suffered from palpitation. Præcordial dulness extended into the epigastrium. Cardiac sounds somewhat those of the "tobacco heart." Sole treatment, tincture of veratrum viride gtt. vj thrice daily.

July 18. Thought the medicine benefited him, and applied for another ounce.

The veratrum sometimes disappoints, even when pushed.

Case VI.—(Reported by the same.)—George Garrison, a currier, 20 years of age, May 15, 1858, complained of pain in chest, which shifted about to different quarters, attended besides with slight nausea. Face was flushed. Respiratory murmur pure. Heart's impulse forcible. There were no changed or abnormal sounds over præcordium, that I could detect. Pulse 120. Gave tincture of veratrum viride, gtt. x, thrice daily.

June 5. Soreness over præcordium. Heart's impulse less forcible. Pulse 120, although gtt. xx instead of gtt. x were taken. Complains of intestinal gas. Ordered tincture of veratrum viride to be continued, an emplastr. belladonnæ to præcordium, and pulv. ipecac. gr. ij, and pulv. rhei gr. iij, *pro re natâ.*

9*th.* Pulse 96. Relinquished work; feels better; less troubled with the gas; cardiac disturbance continues. Has taken between twenty and thirty drops of the tincture of veratrum viride thrice daily, he states, without effect.

The following formula was adopted: ℞.—Tinct. digitalis, tinct. verat. viride, āā gtt. x, *ter in die.*

The patient reappeared in August, improved.

Case VII.—*Organic Disease of the Heart.* (Reported by W. Ingalls, M. D.)—A lady, 22 years of age, with florid cheeks, fair complexion, auburn hair, light-blue eyes, has been under my care for a long time, with the following symptoms: Tumultuousness, palpitation of the heart, tightness across the chest, dyspnœa, syncope, flatulency, disagreeable and sometimes horrible dreams, blueness of lips. The symptoms named have not been present all at once. The normal sounds of the heart are interrupted, at various intervals, by an irregularity which lasts for the space of about three beats, a hesitation, and then a sound which may be represented by the word *thurrurdup.*

In January, 1857, I saw the patient while suffering with one of her paroxysms, her pulse being 125, and the interruption mentioned above occurring at every 14 beats. I prescribed tincture of veratrum viride gtt. x, to be repeated in two hours, provided there was no relief. In ten hours I found the pulse 85, the interruption at every 40 beats. The first dose only had been taken, for so great a change in her feelings was experienced that she preferred to await my next visit. I myself was alarmed at finding so great a reduction of the pulse in so short a time.

Within a few days, another paroxysm coming on, she took five drops of the tincture with good effect, the pulse being 96, and coming down to 78, the interruptions improving from 18 beats to 58. In a short time it was found that the susceptibility of the patient was so great that doses varying from three drops to one, taken on the approach of a paroxysm of dyspnœa or fainting, would produce the effect of lessening, and, in some instances, of almost entirely overcoming it, as to severity and duration. At this writing the heart

beats with great regularity for the most part, the troublesome symptoms supervening but rarely.

This case was one of the first in which I made use of the veratrum viride.

CASE VIII.—*Inflammation of Fauces, with high Febrile Action.* (Reported by TRUMAN RICKARD, M. D.)—April 17, 1858, was called in the morning to visit Alice T——, aged about 4 years. Appearance as follows: Fever high; cheeks purple; pulse 140; respiration nasal and noisy; cough very troublesome. Directed tincture of veratrum viride, gtt. iv, every two hours, and pepper-sauce (*capsicum annuum*, var. γ.), diluted and sweetened, for the throat. 6½ P. M. Pulse 110; skin moist.

18*th*. Febrile paroxysm returned; pulse rose to 140. Directed tincture of veratrum viride, gtt. v, every two hours; pepper-sauce as before. Pulse fell speedily.

20*th*. Better; skin moist; respiration 30; breathing less noisy. Continued veratrum viride, less frequently, and applied croton oil to the upper portion of the chest. Recovered rapidly.

CASE IX.—*Puerperal Fever.* (Reported by BENJAMIN CUTTER, M. D.)—J. G——'s wife was confined April 2, 1858, with her first child, and had been doing well for ten days. April 12, was called to her, and found pulse 130; headache and pain in the bowels. Gave ol. ricini, so as to produce three dejections. Ordered besides gtt. x of tinct. verat. viride every three hours. Took four doses, with marked benefit.

April 13. Pulse 130; headache; uterus tender on pressure; skin moist and warm; some nausea. Continued the veratrum viride every two hours.

14*th*. Pulse 100; vomited occasionally.

Had Seidlitz powders and the veratrum viride irregularly for the next two days.

On April 17 a return of severe headache was met by gtt. xij of tincture of veratrum viride *every hour*, till five doses were taken, with entire relief. Afterwards the medicine was occasionally taken, the pulse being steadily kept down by it.

20*th*. Pulse 70, and the patient convalescent.

CASE X.—(Reported by EPHRAIM CUTTER, M. D.)—Mrs. E. E. T—— was confined April 28, 1858. Had a chill on the 29th, followed by fever. She was treated by my father, Dr. B. Cutter, with calomel and opium, neutral mixture, and the tincture of veratrum viride, besides leeches to the os uteri, until May 3, when, on leaving home, the case fell to the reporter. At 10½ A. M. pulse 120, and headache. Ordered tincture of veratrum viride, gtt. vj, every hour. Two doses were taken, when vomiting ensued, with profuse sweats and some uterine hemorrhage. At 4 P. M. the pulse was 72. After this the tincture of veratrum viride was continued as a febrifuge, *pro re natâ*, and almost every dose was followed by sweating, besides reduction of the pulse. It seemed possible to keep the pulse at any point desired. She is now (May

15) convalescent. It should be remarked that Mrs. T—— was not susceptible to opiates.

Case XI.—(Reported by William Ingalls, M. D.)—In a case of inflammation, and subsequent sloughing of the vagina after delivery, the fever was very high, and the tincture of veratrum viride was given in doses of from three drops to ten, but could not be tolerated; every dose created great nausea, without attendant reduction of the frequency of the pulse, and after twelve hours was refused by the patient.

Case XII.—*Pneumonitis.* (Reported by Benjamin Cutter, M. D.)—A. H——, æt. 40. Seen April 1, 1858. Had been sick since 28th ult. Taken with chills, general soreness, and pain in right chest. His pulse was 110, and respiration 25. Gave powders of submur. hydrarg., tart. ant. and opium. Twelve hours afterwards I found him with pulse 132, respiration 22, complexion very sallow, expectorating bloody sputa. Bled him 24 ounces. Continued the powders, and gave tincture of veratrum viride, gtt. x, every two hours.

April 3. Had vomited freely for two or three hours. Pulse 80, respiration 20. Continue veratrum viride.

4*th.* Veratrum viride taken irregularly. Pulse 96, respiration 20. Ordered veratrum viride, gtt. x, every two hours.

5*th.* Pulse 60.

6*th.* Pulse 72; some canker on tongue. Take veratrum viride, gtt. x, every eight hours.

7*th.* Pulse 74; hungry. An egg for breakfast.

10*th.* Pulse 76; down stairs; eats beans.

11*th.* Out doors; convalescent, with rapid recovery.

A blister was applied the fourth day, and the bloody sputa occurred almost daily until after leaving his chamber.

Case XIII.—(Reported by the same.)—April 12, 1858. P. D——'s daughter, 2 years old, with pneumonia in the second stage. Sick since the 8th. Pulse 170, respiration 80 per minute; panting, sometimes screeching; no sleep; mother a poor nurse. Ordered a wet towel to be kept constantly about the chest, and full doses of tartarized antimony and the veratrum viride every hour, as much as could be borne. These were continued till the child came fully under the influence of the veratrum viride, and then dropped.

13*th.* In the morning, pulse 130, respiration 56; screeches sometimes; pants. Veratrum viride continued, in smaller doses.

14*th.* Easier.

15*th.* Pulse 130, respiration 40; child bright.

After this, the little patient improved and recovered.

Case XIV.—(Reported by R. L. Hodgdon, M. D.)—January 5, 1858. A child, 4½ years old, was found with a frequent dry cough, hot skin, rapid respiration, furred tongue, and a pulse of 140. ℞.—Calomel gr. iij; follow with ol. ricini. ℞.—Tinct. verat. vir. gtt. iij, every three hours.

6*th.* Copious dejection; vomiting this morning; pulse 84 (a reduction of 56); cough frequent; respiration slower.

7*th.* Pulse 120. Has not taken veratrum viride since last evening. Resume veratrum viride.

8*th.* Has vomited; pulse 60 (reduced 60). Ordered tinct. veratrum viride gtt. ij every two hours.

9*th.* Pulse 80. Continue veratrum viride.

10*th.* Pulse 80. Veratrum viride continued. From this date the convalescence was rapid. There was no medicine exhibited after the cathartic but the veratrum viride.

Case XV.—(Reported by the same.)—Mr. C——, aged 44, March 13, 1858, has great pain in right side, with frequent cough, dyspnœa, and a pulse of 120. He has taken cathartics. Ordered leeches to side, and tincture of veratrum viride gtt. v, with $\frac{1}{16}$ gr. of sulphate of morphia, every three hours.

March 14. Pulse 80; pain less.

15*th*, A. M. Pulse 100; slept during the night, and omitted the veratrum viride. Resume veratrum viride.

15*th*, P. M. Pulse 60; some nausea; no vomiting. Ordered tincture of veratrum viride, gtt. iij, every four hours, with Dover's powder at night.

16*th.* Pulse 72. Omit veratrum viride.

Case XVI.—(Reported by the same.)—April 19, 1858. Mrs. H——, aged 84, while recovering from the effects of extensive suppuration in right arm, sat at an open window yesterday half an hour, and shortly afterwards had a chill, with sneezing and coughing. To-day she has an urgent cough, a pulse of 104, and crepitus in lowest lateral third of chest. ℞. Tinct. verat. viride gtt. iij; sulph. morphiæ gr. $\frac{1}{16}$; liq. ammon. acet. f℥ss.—M. Take every three hours.

20*th.* Pulse 82; troublesome cough; rusty sputa. Omit veratrum viride.

21*st.* Pulse 94. Resume veratrum viride as before.

22*d.* Pulse 76. Take veratrum viride every four hours.

25*th.* Had diarrhœa, after which the cough suddenly ceased.

Case XVII.—(Reported by Truman Rickard, M. D.)—Martha C——, aged 5½ months, was seized with inflammation of the lungs, Feb. 26, 1858. I saw her in the afternoon of the 27th. With the characteristic symptoms of pneumonia, I found her pulse 184. Ordered fomentations to the affected region, draughts to the feet, and tincture of veratrum viride, gtt. iss, every two hours.

February 28, 10 A. M. Better in all respects; pulse 125. Continue same treatment during the day, reducing the dose of the verat. viride to *one* drop.

March 1. Doing well. Directed an expectorant mixture, and tincture of veratrum viride, gtt. j, every four hours; more frequently if fever comes on.

2*d.* Pulse rose yesterday to 150, but a return to the veratrum viride, gtt. j every hour, brought it down, and it has not risen so high since. Continue

expectorant, and veratrum viride less and less frequently. She made a speedy and good recovery.

Case XVIII.—(Reported by the same.)—May 22, 1858. The subject of the last case had another attack. Saw her at 7½ o'clock A. M. Found her as follows: Face pale; eyes dull; head hot; pulse 150; respiration 60; cough troublesome; hoarseness; dulness of right lung on percussion, and an abundant mucous rale over the right lung. Directed the head to be bathed freely with cold water, and prescribed tincture of veratrum viride, gtt. iss, every two hours.

23*d*, A. M. Pulse 120; brighter; head cooler. Continue verat. viride. P. M. Pulse 150; respiration 90; cough; a little hoarse; also crepitus and diminished resonance on percussion at base of left lung. Directed tincture of veratrum viride, gtt. ij, every two hours; calomel ¼ gr. and pulv. ipecac. ¼ gr. every two hours; cold water dressing to the throat.

24*th*, 10 A. M. Pulse 72 (a reduction of 78); face pale; skin cool and moist; respiration 57; no urine for twenty-four hours past. Directed cream of tartar water, and omitted veratrum viride till next visit. Apply turpentine stupe to back.

25*th*. Pulse 120; respiration 60; cough loose; skin cool and moist. Apply stupe to chest, and use expectorant mixture, with occasional doses of the verat. viride.

26*th*. Pulse 90; quiet; rested well during the night; respiration 48; skin cool and moist. Omit veratrum viride; continue stupe once daily to back, or front of chest; also the expectorant mixture. From this time she went on well, and made a good recovery.

Case XIX.—(Reported by Howland Holmes, M. D., of Lexington.)—In one case of pneumonia, patient an adult, pulse 84, I gave gtt. iij tinct. of veratrum viride every four hours. At my next visit, twenty-four hours after, found patient's pulse 74. Directed tincture to be given every two hours, and nine hours after I found the pulse 62. Nausea or other unpleasant effects were not induced.

Case XX.—Dr. J. D. Mansfield, of South Reading, relates a case of pneumonia of left lung in a young man of 20, of scrofulous diathesis, in which the tincture of veratrum viride seemed rather to *increase* than *diminish* the pulse. The case was fatal on the ninth day of treatment and thirteenth of disease. There was other treatment.

Case XXI.—*Acute Rheumatism.* (Reported by Alonzo Chapin, M. D.)—May 20, 1858, P. M., I was called to a young man about eighteen years of age, with symptoms simulating acute pleuritis in the inferior portion of the right thorax. Prescribed a sinapism to the part; ten grains of Dover's powder at bedtime, and tinct. veratrum viride (Tilden's extract) gtt. viij every two hours.

21*st*. A. M. Passed a restless night. Symptoms same as the night before;

pulse at 100. Continue the veratrum viride. P. M. Pain much diminished; vomiting; pulse 90. Suspend all medicine for the night.

22*d*. A. M. Pulse again at 100. Pain had entirely left the chest, but both knees and ankles were swollen and painful. Continue veratrum viride gtt. viij, with gtt. xx of nitric ether, every three hours.

23*d*. Pulse 72. Pain and tumefaction less. Continue veratrum viride.

24*th*. Much improved; had slept well the previous night; tongue cleaning; urine, which had been highly lateritious, improved; appetite returning.

25*th*. Veratrum viride has been given occasionally the past 24 hours. Pulse now 72. Pain severe in the joints of toes, elsewhere has left him entirely, and there is an appearance of speedy recovery. The patient had on a former occasion suffered much from hypertrophy of the heart, and there was difficulty in controlling the excessive action. During the present instance, the heart became at one time tumultuous when the veratrum was omitted. Its resumption served very soon to restore quiet. I consider the veratrum as possessing additional value in this case on account of the cardiac complication.

It will be seen, too, that my first view of the case was changed by its after symptoms, and that what at first seemed pleuritis, proved to be acute rheumatism. Its course has thus far been more rapid than usual, and it now promises a more speedy termination than is common.

Case XXII.—(Reported by Ephraim Cutter, M. D.)—Mr. S. S. M., in bed with an attack of acute rheumatism was treated with phosphate of ammonia and tincture of colchicum seeds—grs. xv of the former and ʒss of the latter every four hours. During the interval, he took gtt. vj of the tinct. veratrum viride. The pulse soon fell from 120 to 96. On account of nausea it was discontinued.

Case XXIII.—(Reported by William Ingalls, M. D.)—A young man, 19 years of age, of a naturally lax texture and white skin, applied for advice on the 12th of May, 1858. Had not felt very well for several days; could hardly tell what was the trouble; indisposed to move about; not much appetite; bowels irregular; skin cool and of a yellowish cast; tongue coated; pulse 60, soft, and full. Gave a cathartic containing calomel.

13*th*. Reported himself better.

14*th*. 4½ A. M. Found him in bed suffering intense pain in the right foot, which is somewhat swollen, and of a pink hue on the instep and the region of inner ankle. Had been thus for four or five hours. Pulse 106, full and rather hard; tongue coated; skin hot and dry. Learned that on the day previous, which was a cold, drizzly, northeasterly day, the patient was out of doors a good deal, and was otherwise imprudent. *Diagnosis.*—Acute rheumatism. *Treatment.*—Tinct. veratrum viride gtt. v every two hours, and cold water dressing to foot.

In the afternoon, finding the left foot was becoming inflamed, and that there was no amelioration of any symptom, I ordered tinct. veratrum viride

gtt. x every two hours and water dressings. Shortly after the third dose, vomiting commenced and continued nearly three-quarters of an hour. This was at 11 P. M. Pulse 94, full and softer. He took no medicine until the next morning, which was the

15*th.* 8 A. M. Patient expressed himself as having been wonderfully free from pain for the last eight or nine hours, as compared with the twenty-four previous—still he could not be turned over in bed without suffering agony. Pains now attacking knees; pulse 102. Again ordered the ten drop dose to be given as before. After the fourth dose, vomiting took place.

In the evening, pulse 86; redness subsiding in the feet; pains very much less.

From Sunday, May 16th, to the morning of Thursday, May 20th, the hips slightly, the shoulders, elbows, and wrists were successively attacked, beginning on the right. He took, during this time, tinct. veratrum viride gtt. v every two hours, commencing on Sunday morning, and prolonging the interval between the doses in such a manner that on Thursday morning it was omitted. On Friday he was dressed, and with a little assistance came down stairs where I found him free from pain, redness, and swelling. Appetite good; pulse 72. He has been well since.

Case XXIV.—*Pleuritis.*—Alonzo Chapin, M. D., in March, 1858, thus writes: Last fall I attended a man with typhoid fever, who, after an illness of several weeks, had convalesced so far as to get out of doors. He was suddenly seized with the symptoms of acute pleuritis, and having been so prostrated by the previous fever that general bleeding was out of the question, and leeching was to be avoided if possible, I relied upon the veratrum viride, giving him eight drops of Tilden's extract every three hours, to control the circulation, and found it entirely satisfactory. It rapidly subdued the excited pulse, and kept it in a good degree of subjection, better than could have been expected from any other article. Adjuncts were used as indicated, and the patient seemed to bear tonics and stimulants earlier and more freely when accompanied with the veratrum than in the previous convalescence. He recovered well, and, as far as I can detect, is free from the adhesions and effusions incident to such attacks.

Case XXV.—(Reported by J. D. Mansfield, M. D.)—Miss S. L., aged 18, was suffering with the rational signs of a severe inflammation of the pleura. Under the use of the tartrate of antimony and potassa, nitrate of potassa, tinct. digitalis and hot fomentations, with pulv. ipecac. subsequently, in four days these symptoms abated. On the fifth day from seizure, a relapse. Gave tinct. veratrum viride gtt. vj once in four hours. The next day pulse was reduced from 128 to 86. Breathing quiet; skin moister; pain gone.

Case XXVI.—(Reported by Moses Parker, M. D., of Melrose.)—The patient was a man about 40 years of age, of a nervous temperament. He

was suffering from pleuritic effusion. There was present a constant cough; a pulse of 90 (it had been so several *days*, and I think *weeks*); debility; anorexia, and an inclination to low spirits. He had used the wet sheet so as still farther to reduce his vitality. Directed gtt. iv of Tilden's extract of veratrum viride—to be repeated in four hours, should the pulse not become reduced. His wife misunderstood the directions and repeated the medicine unnecessarily. The second dose acted with power and produced great prostration. Found the pulse 40 beats lower than at the previous visit, although he had begun to rally. The symptoms of depression yielded readily to brandy. At the end of an hour he was comfortable, and the pulse at the normal beat.

The patient was very much alarmed, and refused to take any more veratrum. The points of interest in this case are the great and speedy reduction of the pulse—he took but two doses—and the prompt reaction under the use of an alcoholic stimulant.

Case XXVII.—*Measles.* (Reported by Truman Rickard, M. D.)—Mrs. M., a wet nurse, sick with measles, I visited April 25, 1858, and found her as follows: Pulse 120; head very hot, and aching very badly over the left eye; restlessness and thirst; eruption out well upon the face and neck, but not developed upon the trunk. Directed a warm vapour bath to be applied in bed, and tinct. veratrum viride gtt. vj every two hours. Expected to find it necessary to apply leeches to the left temple.

26*th.* Pulse 104; headache gone; eruption coming out upon the body finely; much better. She took but two doses of the veratrum viride, as it produced vomiting.

27*th.* Needs no farther attendance.

Case XXVIII.—(Reported by same).—J. C. R., aged 6½ years, had a prompt and well developed eruption. The febrile action was high. Pulse 140; restless. Gave one dose of tinct. veratrum viride to see what effect it would produce upon the heat and restlessness. In half an hour the pulse fell *eight* beats; the surface became cooler, and the child much more comfortable.

I have come to the conclusion, after repeated trials of the veratrum viride in measles, that a dose given occasionally moderates the intensity of the febrile action, promotes the comfort of the patient and certainly does not retard the eruption.

Case XXIX.—(Reported by Ephraim Cutter, M. D.)—A boy 8 years old, who went out too soon after having had measles, experienced a chill, which was followed by headache and fever; the pulse being 120.

The veratrum was exhibited in three drop doses every hour for four or five times. No vomiting ensued. He became relieved of the cephalalgia, and the next day the pulse was found to be 60. The only other medicine was a simple cough mixture.

Case XXX.—*Bronchitis.* (Reported by Benjamin Cutter, M. D.)—C. R., aged 5½ years, May 20, 1858, has been sick four days with cough and cold. Pulse 130; respiration 40. Gave tinct. veratrum viride gtt. ij every hour.

21*st.* Pulse 112; respiration 45; chest resonant. Veratrum viride to be doubled till nausea.

22*d.* Pulse 80; respiration 40; did not sleep well; urinates freely.

23*d.* Pulse 92; respiration 25. Down stairs, being dressed; bright; better.

Case XXXI.—*Influenza.* (Reported by Truman Rickard, M. D.)—This case shows the prompt effect of the veratrum. Mrs. E. R. R. was attacked with influenza March 14, 1858. At 8 o'clock P. M., fever high; headache severe; pulse 112, and increasing up to present time. Gave tinct. veratrum viride gtt. viij. *In one hour* the pulse fell to 100. At bedtime repeated the dose. Patient much better in the morning. No other treatment was adopted.

Case XXXII.—*Infantile Remittent Fever, complicated with Vascular Irritation of the Encephalon.* (Reported by Truman Rickard, M. D.)—Sarah P——, aged three and one-half years, was taken sick on Monday morning, February 1, 1858. She was well, apparently, the preceding day, and slept well the night before the attack. When she awoke in the morning she complained of feeling sick, and did not wish to get up. Simple domestic remedies were employed during the day, and on the morning of Tuesday her parents thought her better. It soon became apparent to them, however, that there was in reality no improvement, but that she was actually getting worse, and I was asked to see her at 4½ o'clock P. M. Her condition at the time of my visit was as follows: pulse 188, and irregular; respiration 48; cheeks flushed and almost purple from the intensity of the febrile action; head hot; tongue covered with a thin, yellowish-white coating; constant drowsiness; the pupils somewhat dilated and vacillating; eyelids partially closed; convulsive startings of the upper and lower extremities; and a strongly-marked fear of falling when taken up; respiratory murmur clear throughout both lungs; had passed no urine during the day. She perspired freely on Monday, her mother informed me, but at this time the skin was dry and hot. She lay, the most of the time, in a state of semi-unconsciousness, and very seldom responded to the questions proposed by her parents and attendants. Her symptoms clearly indicated that the brain was suffering from the intense vascular excitement. Regarding the case as an excellent one for a trial of the veratrum viride, I decided upon that as the principal remedial agent at this time.

Treatment.—Feb. 2. Directed tincture of veratrum viride gtt. v, every two hours; cloths wet in cold water to be applied to the head; mild sinapisms to the feet; as perfect quiet as possible, and the room to be darkened. The

first dose of the veratrum viride was administered at 5 o'clock P. M. At 5 P. M. pulse 188; at 9 P. M., 134; at 11 P. M., 118.

3*d*. At 1 A. M. pulse 116; at 5½ A. M. 136; at 8½ A. M. 144; at 10 A. M. 145. Febrile paroxysm returning. There is a constant hacking cough; respiration nasal; fauces red; left cheek very much flushed; right cheek pale; general heat of surface not so great as yesterday; pulse a little hard. Gave a powder consisting of calomel, gr. iij, and cream of tartar, gr. iv, to move the bowels. Directed a tablespoonfnl of water, sweetened and acidulated with cream of tartar, to be given every two hours; continue veratrum viride and other adjuvants as yesterday.

At 5 P. M. pulse 145. The calomel produced three evacuations in the afternoon, and the kidneys responded to the cream of tartar.

At 8½ P. M. pulse 120. Febrile paroxysm subsiding. Directed veratrum viride gtt. iv, every four hours, and a powder consisting of calomel gr. ¼, and ipecac. gr. $\frac{3}{16}$, every four hours. Directed gum water for nourishment. Continue cold cloths to the head and sinapisms to the feet. During the night pulse 120 to 130.

4*th*. At 10 A. M. pulse 136; at 11 A. M. 142. Febrile paroxysm began to come on in the morning; remittent character of the disease well developed; respiration 40. Continue veratrum viride as yesterday, and a powder consisting of calomel and ipecac. āā gr. ¼ every four hours; continue the drinks and other adjuvants as heretofore. At 7½ P. M. pulse 140; in the night 140 to 134. Directed an enema to be given in the morning.

5*th*. At 10 A. M. pulse 136. Respiration quiet; tongue moist, with a thin, darkish coloured coat; head cool; intellect clearer. Called for her doll this morning, and, when brought, kissed it. The injection administered in the morning acted promptly, and brought away a large quantity of *muddy* looking fecal matter. The hacking cough continues. Directed pepper sauce diluted and made very sweet, in small quantities for the fauces. Continue veratrum viride and powders as yesterday; continue drinks; omit cold to the head and sinapisms to the feet. Pulse *regular* and soft, remaining at 134 from 2½ to 11 P. M.; respiration 38; fever less during the day than yesterday; head cool; sleep quiet.

6*th*. At 1 A. M. pulse 130; at 2 A. M. 124; at 3 A. M. 128; at 11 A. M. 128. Getting a little feverish; passed urine freely; tongue moist, darkish coat still continues; intellect clear; first observed a shawl that had been used several days to darken the window behind her couch; wants her playthings; wants to sit up. Continue the veratrum viride as yesterday; omit calomel and ipecac.; is to use the cream of tartar water for drink *ad libitum;* continue the gum water; directed chlorate of potash and bicarbonate of soda, āā gr. j, in solution every four hours; Dover's powder at bedtime to secure sleep. At 9 P. M. pulse 124.

7*th*. At 10 A. M. pulse 113. Tongue moist, coating thinner; bowels acted several times during the night, passing off green bile; kidneys act

freely; respiration 34. There was a slight return of the convulsive motions of the arms during the night, with restlessness; cough troublesome. Directed veratrum viride gtt. iv, every six hours, and Dover's powder and hyd. cum cretâ every six hours; omit the cream tartar water; continue to use the gum water; continue the chlorate of potash and soda.

At 1 P. M. pulse 104; at 4½ P. M. 98; at 9 P. M. 94, and skin moist. Dover's powder at bedtime to secure sleep.

8*th.* At 10½ A. M. pulse 99. Rested during the night much better than the previous night. Tongue cleaning; appetite begins to return; is fully conscious, but very weak. Directed small doses of rhubarb and soda three times daily; also veratrum viride gtt. ij, and sweet spirits of nitre gtt. x, every four hours; Dover's powder at bedtime; omit chlorate of potash and soda.

9*th.* At 11 A. M. pulse 105. Tongue pretty well cleaned; was restless last night; rather more heat; the irritation in the fauces produces a troublesome cough. Directed to employ the pepper sauce and sugar, but not to give drink immediately after its use; continue the veratrum viride and nitre, and rhubarb and soda; Dover's powder at bedtime.

10*th.* At 10 A. M. pulse 94. Convalescence fairly established; cough much better; fauces better. Continue medicine as yesterday.

11*th.* At 10 A. M. pulse 96. Going on well. Omit veratrum viride; continue rhubarb and soda; directed citrate of iron, gr. j in solution, three times daily; Dover's powder at bedtime.

12*th.* At 11 A. M. pulse 95. Throat and cough very much better; rested well last night; strength and appetite improving. Continue medicine as yesterday.

15*th.* At 2 P. M. pulse 94. Has been doing finely, and gaining strength well. Omit rhubarb and soda; continue iron, and Dover's powder at bedtime if needed. Took leave of patient. She continued to improve, and made a good recovery.

The points of special interest in this case are the suddenness and severity of the attack, the semi-unconsciousness so long continued, and the excellent effect of the veratrum from the time of administering the first dose. Although the quantity given at first was somewhat large for a child of that age, no nausea was produced.

Case XXXIII.—*Scarlatina.* (Reported by Ephraim Cutter, M. D.)—Ellen McElroy, 2 years and 4 months old, with strawberry tongue, scarlet rash, and a strong pulse of 144, took, March 11, 1858, four drops of the tincture of veratrum viride every two hours. Creasote was exhibited for irritability of stomach, and bitartrate of potassa water for drink. The following day the pulse was 96.

There are some cases over which the veratrum viride has no power. Reference is here made to instances of scarlet fever, two of which have just occurred. Both died. No effects on the heart or stomach were produced by

the administration of the tincture in the usual quantity every hour. Probably no medicine would avail in these cases.

Case XXXIV.—(Reported by W. Ingalls, M. D.)—Oct. 10, 1857. Ella —— 8 years old, a delicate child, with hypertrophy of the heart from infancy, if not from birth, had been "not very well" for three days. The only guide to a diagnosis was a pulse of 110, and a strawberry tongue. The day previous to my visit there was, as described by her mother, an eruption of a red colour upon the neck and arms. The patient is very thin, and the beating of the heart may be heard and felt throughout the chest, and in the erect posture a considerable movement is imparted to the whole frame by the palpitation.

Tincture of veratrum viride, gtt. iv, was prescribed every three hours besides quietude and light nourishment. In a few days there was desquamation of the skin, followed shortly after by anasarca and hematuria. During the course of these sequelæ the tincture of veratrum viride was taken quite constantly, the pulse ranging from 100 to 125, as sure as the influence of the medicine was lost, and being as low as 88 to 94 while under it.

I have not mentioned all the treatment, as it is not necessary for the purposes of this report.

The child recovered and has remained as well as usual ever since, which is now about ten months.

Art. II.—*Account of the Yellow Fever, as it occurred on board the U. S. Frigate "Susquehanna," in March and April,* 1858. By Robert T. Maccoun, M. D., U. S. Navy. (Communicated by W. Whelan, M. D., Chief Bureau Medicine, U. S. N.)

The U. S. frigate "Susquehanna," whilst lying at our naval rendezvous at Spezzia, in Sardinia, received orders on the 16th of October, 1857, from the Hon. Secretary of the Navy, to proceed to San Juan de Nicaragua.

Accordingly, on the 22d of the same month, she sailed for the above-named port, touching at Genoa, Madeira, and Key West, *en route.*

She arrived in San Juan early in December, with her officers and crew in a perfectly healthy condition.

About ten days after coming to anchor, intermittent and remittent fevers became prevalent on board. These fevers, which are endemic in the country, are of a mild form, and easily arrested by a few doses of quinine. At first they were almost entirely of the intermittent type, but, as the time of our sojourn lengthened, they gradually assumed the remittent type, becoming more severe, but never fatal.

During this period, gastro-enteritic affections became very common, the slightest imprudence in diet producing cholera morbus or diarrhœa. Scorbutic

symptoms also began to manifest themselves, owing to a want of fresh provisions, which could not be procured, either abundantly or of good quality, at that place.

This condition of things continued up to the 20th of March, when the first fatal case of fever occurred. Finding we had a malignant disease among us, the ship was gotten under way, and cruised off and on the port for four days, at the end of which time we came to anchor, outside of the harbour, and sufficiently far from the shore to be out of reach of any malarious influences. Our change of position did not cause the disease to abate; on the contrary, cases were continually occurring, and the sick list rose to thirty in number.

It was now deemed advisable to proceed to a port in the United States, it being evident that the ship was infected with a malarious poison, which could not be eradicated in that climate.

Accordingly, on the 1st of April, we sailed for Pensacola, intending to stop at the Island of Old Providence, in order to procure coals, of which we were short, and supplies of fresh provisions.

The second day out, however, this idea was abandoned, and it was considered more advisable to run for the Island of Jamaica, which could be reached nearly as soon, and where greater facilities would be offered for procuring what we desired.

On the evening of the 5th of April we arrived off Port Royal, Jamaica, in a most lamentable condition. We had one hundred and six officers and men lying dangerously ill of the fever, and a gloom hung over every one, which even our arrival in a hospitable port could not for a moment shake off. As we entered the harbour, we passed near the Admiral's ship, which was brilliantly illuminated, there being a ball on board; and the cries and groans of the sick and dying, that filled our decks, formed a sad contrast to the sounds of music and merry voices, wafted to us from the festival. That night will never be forgotten by any survivor; it was a night of real horrors.

As soon as our ship came to anchor, Admiral Sir Houston Stewart politely sent his flag lieutenant to invite the officers to join in the festivities of the evening. The invitation was of course declined, and the boat returned, bearing a message from the captain, informing the admiral of our melancholy condition.

A short time afterwards Dr. Kinnear, Deputy Medical Inspector, came alongside, bearing the most generous offers of assistance from Admiral Stewart. Permission was given to land all our sick at the Royal Naval Hospital, boats and cots were to be sent to transport them on shore, and the ship was to be coaled and watered, in twenty-four hours, that we might be able to proceed on our homeward voyage, without delay. Several officers left the ball to get everything in readiness, and at six o'clock on the following morning, sixty-three officers and men, sick with the fever, were sent to the hospital; and on the day following twenty-two more, making in all eighty-five cases.

The prompt and generous manner in which Admiral Stewart acted towards

us, must elicit the praise and admiration of every one; and the kindness and attention of Dr. Kinnear, and the other medical gentlemen attached to the hospital, cannot be too highly appreciated.[1] On the 8th day of April we left Port Royal for New York.

Previous to our arrival in the former place, water had been daily let into the ship, and was pumped out again, and a large quantity of Burnett's preparation of chloride of zinc, procured at Port Royal, was freely used down the pump wells, in the hold, and sprinkled over the decks, yet the disease continued its march with unabated violence.

The sick list rapidly increased during our passage home, and upon our arrival at quarantine, New York, on the 15th of April, we had fifty patients.

Causes.—San Juan is considered the healthiest port on the unhealthy coast of Central America, nevertheless, every condition exists there for the production of fever.

It is situated in a flat alluvial soil, surrounded by marshes and lagoons, and at the mouth of a fresh water river. During eight or nine months of the year it rains almost incessantly, and even in what is called the dry season, showers are of almost daily occurrence.

The thermometer has a range of from 75° to 90°, with a high dew-point; meats can scarcely be kept over night, without the use of salt, and all kinds of animal and vegetable matter quickly decompose. Arriving about two weeks before the end of the rainy season, we were exposed, during that period, to constant wet weather. For ten days or more the heavens were veiled in black clouds, and the sun was invisible. Everything in the ship was saturated with moisture, even to the bedding; and, although stoves were placed on the berth deck, they only partially corrected this condition.

Our lengthened stay in this hot, damp, and unhealthy climate, gradually debilitated the crew, leaving them with little powers to resist or bear any serious disease.

The Susquehanna was at all times in excellent order, and, as far as the eye could discern, cleanly throughout. But there are parts of a ship out of sight which, under the present mode of construction and arrangement of the hold, cannot be got at unless she is thoroughly *broken out*, and the floor taken up, so as to expose the bilge and limbers. In a steamer these are the receptacles of oil and tallow used in the machinery, of a deposit of mud, by leakage, and of other matter which naturally finds its way there.

At sea, whether water is let into the ship or not, the leakage and pumping keeps this matter constantly diluted, but when a vessel lies in port for months,

[1] Names of the officers at Royal Naval Hospital, Jamaica: C. R. Kinnear, Esq., M. D., J. P., Deputy Inspector of Hospitals, &c.; J. P. Burke, Esq., M. D., Staff Surgeon; Jas. S. Barry, Assistant Surgeon; Wm. J. Lewis, Assistant Surgeon; F. H. Rose, Assistant Surgeon; the last named gentleman, upon Captain Sand's application to Admiral Stewart for an additional medical officer in case of need during the passage home, most handsomely volunteered his services.

this dilution does not take place, and under favourable circumstances, of heat, moisture, etc., a pernicious miasm is generated, capable of producing disease. It is to this spot the origin of the malaria[1] on board the Susquehanna must be attributed, and the same thing will constantly recur on board of ships and steamers that remain for a long time in tropical ports, until there is some improvement made in construction, by which the bilge and limbers can be readily cleaned out, and kept constantly ventilated.[2]

The intermittent and remittent fevers so prevalent on board, previous to the appearance of the yellow fever, doubtless had a distinct origin, and were caused by the malaria emanating from the swamps and lagoons, in the vicinity of which we were anchored. This conclusion is the more probable, since yellow fever was never known at San Juan before—the other ships in port had the intermittent and remittent fevers, but were exempt from the yellow fever—and patients, who had had attacks of intermittent and remittent fever, afterwards took the yellow fever, when convalescent.

Symptoms.—There is perhaps no disease which presents more varied symptoms than this, and in many cases it is so masked, especially in the commencement of an epidemic, as to render the diagnosis impossible.

The first cases on board the Susquehanna were of this character, viz:—

Case I.—L. B., æt. 55, was admitted on the sick list with cholera morbus, of which he was convalescent on the 18th of March. On the evening of the 18th he was taken with fever, which was thought to be the remittent prevailing on board, and was treated accordingly. Early the following morning the patient was found comatose. Cups were applied to the back of the neck, his hair was cut close, and cloths steeped in ice water were placed on the head; a stimulating injection was also given, the body rubbed with warm spirits, and sinapisms applied to the ankles. This produced no relief whatever, and as the pulse was full, and the breathing becoming stertorous, the patient was bled to 18 ounces.

He remained in the same state until the following morning, when he died, exactly as if from an attack of apoplexy. Upon post-mortem examination, the only lesion found was a large effusion of blood between the arachnoid and the brain.

Case II.—S. H., æt. 24, was admitted on the 22d of March. The attack was ushered in like the former. The patient took a mercurial purge, followed by castor oil, which freely operated on his bowels, after which he was ordered sulphate of quinine, in four grain doses, every fourth hour. The symptoms

[1] Since writing the above, this has been proved, by the fact, that now, nearly three months after the Susquehanna was abandoned by her crew, several persons employed in landing her stores have been attacked with yellow fever.

[2] The new ventilator of Lieutenant J. C. Beaumont, U. S. N., which was used with great advantage on board the U. S. frigate Wabash during her late cruise in the Gulf of Mexico, and which is now being adopted on board of our national vessels, is one of the most simple and efficient means of purifying the atmosphere of the hold ever invented. It is light and portable, not liable to get out of order, and can be readily transported about and set in motion by one person.

in this case were at first very mild, there being little or no headache or pain in the back, and no nausea or uneasiness of the stomach.

At 5 A. M. the following day, the patient was seized with profuse bleeding from the nose, and became comatose. A short time afterwards he vomited nearly a quart of bloody fluid, which at first was supposed to have found its way into the stomach from the posterior nares, but as there was no coagulation, suspicions were excited, and upon examination of the discharge, it was found to be true black vomit.

The symptoms in the succeeding cases became more and more developed, and corresponded generally with Baron Louis' description of the fever which occurred at Gibraltar, in 1828.

In this epidemic the fever presented itself under two types, the remittent and continued; the former being the most common. The disease was usually ushered in with few or no premonitory symptoms, the patient being seized with rigors, which were soon followed by fever, supra-orbital headache, pain in the calves of the legs and knees, rachialgia, injection and suffusion of the conjunctivæ, flushed face, resembling a person under the influence of liquor, tongue furred and soon becoming pasty, with red edges and apex (like raw beef), irritability of the stomach, with nausea and vomiting, and frequently tenderness on pressure, pulse more or less full and rapid, much heat of skin, and great restlessness. In the remittent form the stage of excitement, after lasting for two or three hours, was followed by general perspiration, which, after an hour or two, gave place to the fever. In this manner several exacerbations and remissions occurred during the twenty-four hours.

In the continued form, the stage of excitement usually lasted about seventy-two hours, at the end of which time the active symptoms ceased and the pulse began to give way.

In the worst cases, hemorrhages from the mucous membranes and yellowness of the skin usually occurred at this period, also fulness and burning pain in the stomach and œsophagus, suppression of urine, singultus and black vomit.

In some cases death was preceded by violent convulsions; in others the patient passed away calmly, remaining in possession of all his faculties to the last.

Mortality.—The crew of the Susquehanna consisted of 300 souls all told, out of which there were 170 cases of fever and 46 deaths. Seventeen died on board, 23 at the Royal Naval Hospital at Port Royal, and 6 at the Quarantine Hospital, Staten Island.

Besides these cases, there were very few of the remainder of the crew who escaped without some feelings of indisposition, which required medical treatment. Indeed, it was remarked, early in the epidemic, in mustering the crew round the capstan on Sunday, that every face had a yellow tinge, showing the effects of the poisonous miasm upon every one on board.

Prognosis.—It was impossible to foresee the termination of this most insidious of all fevers. Patients taken with very violent symptoms often got well

speedily, whilst others whose cases appeared to be benign, were suddenly seized with the black vomit and expired.

Those cases in which the stomach symptoms were very severe from the beginning, were the most unmanageable and the most fatal.

Hemorrhages from the mucous membranes, and delirium, were frequently followed by recovery; but suppression of urine was a very grave symptom, and the black vomit always fatal.

Treatment.—The treatment was founded on the experience gained in several previous epidemics.

The very large doses of calomel and quinine, so highly recommended, could not be relied on.

In robust constitutions where there are no head symptoms, and no very great irritability of the stomach, these 20 grain doses might possibly be given without any bad result, but where the stomach is in an irritable condition, where there is constant vomiting or any cerebral congestion, they are decidedly contraindicated. Five or ten grains of calomel and quinine, either alone or in combination, were the largest doses given. If there were few or no head symptoms, the calomel and quinine were given in combination, followed by a hot pediluvium, and in four hours afterwards by an ounce to an ounce and a half of castor oil, and after the bowels were freely opened, two grains of calomel combined with four or five grains of quinine were given every three or four hours, according to the indications of the case.

If there were any signs of congestion about the head, the calomel was given alone. Cups were applied to the back of the neck, the hair was cut short, and cloths wet with ice water were placed on the forehead. When the congestion was relieved, quinine was administered with calomel, at first in small doses and cautiously increased. When there was great irritability of the stomach, and pain on pressing the epigastric region, cups were applied; but in the milder cases, blisters and mustard plasters were only used.

In cases where the vomiting was incessant, the quinine was administered by injection, and no medicine given by the mouth. Even upon the healthiest stomach, quinine acts as an irritant, and in a measure to counteract this influence, it was a general rule never to administer it without previously preparing the stomach with a little arrowroot or broth.

This may appear to be a trifling observation, but it is one which will be found of much importance in the treatment.

Chicken water and beef tea were given as early as possible, to keep the patient from running down, and a free use of wine was found indispensable, as we passed from a southern to a northern climate. One patient in whom no pulse could be distinguished at the wrist for two days, and who could not retain either port or sherry wine, was raised by iced champagne.

Very minute doses of strychnia were found useful in arresting the singultus so painful in this diseases.

The result of the experience gained in this and other epidemics were these:

That the use of large doses of quinine and calomel is hazardous; that a moderate treatment affords the greatest safety to the patient; that the stomach should be prepared for each dose of medicine administered, by arrowoot or broth; that where the stomach is very irritable, the quinine should be given by injection; that the patient should take nourishment early in the second stage, and that he should not be allowed to use any muscular exertion.

Yet, after all that has been written upon this disease, where is the physician, familiar with its ravages, who has not too often been obliged to regret the utter inefficiency of remedies, and who, after having tried all modes of treatment, has not almost been willing to confess, that the simple method used by the West India creoles, which consists in a dose or two of castor or olive oil, and a few tisans of mint, etc., is not as successful as any other.

ART. III.—*Report of an Epidemic of Typhoid Pneumonia, which prevailed in Caswell Co., N. C., in the Winter of* 1857–8, *and Spring of* 1858. By BEDFORD BROWN, M. D., Yanceyville, Caswell Co., N. C.

THE winter and spring months of 1857 and '8 were characterized by much wet and changeable weather, which gave rise to a very extensive epidemic of malignant typhoid pneumonia. About forty cases came under the observation of my partner, Dr. Roan, and myself. The access of the attack was generally sudden, and with but little premonition; the victim having been in the apparent enjoyment of health but a few hours previous. The earliest symptom was an acute pain in some portion of the body, sometimes in the head or chest, shoulder, hip-joint, and occasionally in the foot. This was followed in rapid succession by a distinct chill, which frequently lasted for hours, and was always attended with excessive vital prostration. It was not uncommon to find a patient twelve hours after the first accession of this chill with his system sinking down without the first effort at reaction. The pectoral symptoms were not usually troublesome. The patients complained more of simple uneasiness than actual suffering of pain. In fact, the nervous sensibilities were too much blunted by morbid influences to feel conscious of diseased sensations or impressions. This destruction of the nervous energies and sensibilities and want of consciousness was a remarkable and constant feature in the disease.

Another alarming and constant concomitant symptom was vital prostration. In many, the constitutional powers seemed to be too low to generate a reactive fever. Patients remained cold, almost pulseless, and unconscious for days, and were only sustained, even at this low point, by powerful stimulants, before any improvement in the symptoms occurred.

In all cases, without an exception, the pulse was remarkable for two characteristics, extreme feebleness and diminution of volume, while it varied much in frequency—often at a hundred and fifty, and not unfrequently at seventy. In one patient, I observed it at several of my morning visits at forty, while in the evening it numbered about seventy. Frequently patients would be found early in the morning without any perceptible pulse and unconscious. This I witnessed in several instances, and all reacted under the influence of active and plentiful stimulation. I have never observed any disease, in my own experience, in which the powers of life can ebb so low and be made to flow back to a state of health, by the judicious and prompt administration of remedies, as typhoid pneumonia.

Most of the cases were attended with a peculiar low, remitting form of fever, that had usually an exacerbation at evening, which seemed to act as a stimulus to the patient and bolster him up for the time, but during the night and morning a corresponding remission would come on, that invariably reduced the patient's powers proportionably low. In the appearance of the tongue there was nothing constant. In some cases it was red and dry, while in others it was soft, moist, and white; occasionally it was livid. Diarrhœa was generally present. Symptoms of a nervous character were prominently developed in nearly all cases. Low, muttering delirium and subsultus were very common. Stupor and somnolence were almost invariably present. In one singular case, a paralysis, confined to the muscles of deglutition, existed for several days before improvement commenced. Among the pectoral symptoms cough was usually not troublesome, neither was pain in the chest complained of any great deal. In many of our worst cases, both of these symptoms were entirely absent, or were not complained of. Dyspnœa was very distressing in only a few cases. The presence of these indications in a well developed form was good evidence of a more sthenic type of pneumonia.

The expectoration in the early stages was usually composed of thin, bloody mucus, while in many others it was almost purely sanguineous, partaking of the hemorrhagic character. The appearance of muco-purulent expectoration always denoted improvement. Out of nearly fifty cases, I have witnessed but three with genuine rust-coloured expectoration. The presence of this matter invariably indicated pneumonia of the sthenic form, and was a good criterion for depletive treatment.

Of the physical signs, percussion elicited dulness over the whole extent of the pulmonic disease. The fine crepitant rale of active pneumonia I never was able to discover in the typhoid; as a substitute, a coarse sub-crepitant rale generally existed. Sometimes in a few hours after the attack there was entire absence of all sounds. When improvement commenced, in place of the redux crepitation, the ordinary submucous rales appeared.

It was a little remarkable that, in all the female patients except one, there was a return of the menstrual period in a day or two after the attack of pneumonia. The exception spoken of did not menstruate during the pneu-

monic attack, and died. This was the only patient of the entire number that did not recover. Treatment was delayed too long in her case.

During the course of the disease emaciation progressed with great rapidity. In many, a few days sufficed to reduce the tissues like an attack of Asiatic cholera. Another peculiar symptom, always present in the coloured patients, was a dark jaundiced appearance of the sclerotic coat of the eye.

The evidences are strong in favour of the conclusion that much of the fatality in cases of typhoid pneumonia is due to the poison of carbonaceous matter being retained in the circulation. It is perfectly obvious that when, as is often the case, one-half, and even more than that extent, of the pulmonary circulation is in a complete state of obstruction, at least half of the entire amount of blood must be thrown out of the general circulation and remain stagnant in the system. Another difficulty here presents itself, in the inability of the heart and arteries to push the column of blood through the obstructed lungs. It is also probable that the vitality of both the blood and capillaries is so far annihilated in these cases that the mutual affinities between the solids and fluids are lost, affording another cause for the arrest of circulation. As some proof of this theory, while the nervous and vital energies were crushed with the rapidity and force of a narcotic poison, the complexion, in white patients, presented the lividity of a person breathing carbonic acid gas.

Treatment.—The indications of treatment in these cases were of a threefold character: first, to arouse the vital energies; secondly, to push the stagnant blood through the obstructed pulmonary capillaries, and equalize the general circulation; and thirdly, by means having a more permanent influence to subdue the latent inflammation peculiar to typhoid pneumonia. We discarded most of the standard rules for treating sthenic pneumonia, and marked out a course to suit the peculiar characteristics of the prevailing epidemic.

To arrest the sudden, rapid, and dangerous prostration that was such an alarming feature of this disease, diffusible stimulants and nourishment, in the form of brandy, milk-punch, and ammonia, were administered freely and without reserve from the beginning of treatment. Without them some cases would have died in six hours. The amount of stimulants given depended entirely on the exigencies of the case. Some patients consumed a quart of brandy per day—not for one day only, but for many in succession, and recovered without injurious consequences.

At a morning visit on one occasion to a patient, I found her cold, unconscious, and pulseless; brandy in ounce doses was forcibly poured down her throat every fifteen minutes, and under its influence I could perceive the slow and gradual development of the pulse, and the return of warmth to the surface. At first the pulsations numbered about twenty, and were scarcely perceptible to the touch; but increasing in a few hours while I remained, they recovered sufficient volume and strength to sustain the patient. At my next

daily visit, the nurse informed me that she had given the patient more than a quart of brandy by measurement during the twenty-four hours, with decided benefit. This patient ultimately recovered.

It was our usual custom to administer brandy in ounce doses every hour or two, according to the demands of the case. In combination with stimulants, diet of the most nourishing and digestible kind, was as regularly enjoined as the remedies. I thought the rich milk punch combined these qualities to a greater degree, and suited the cases better than any other article.

As an adjuvant to other remedies, I cannot speak too highly of the carbonate of ammonia given in large and frequent doses. It appears to me to fulfil various indications in these cases, while it is a valuable diffusible stimulant, and affords a concentrated material for assimilation and nutrition. I must place confidence in opinions lately published in regard to its influence as a solvent of the plastic materials of the blood. When the vitality of both the solids and fluids is reduced to as low a degree as they usually are in typhoid pneumonia, the blood, after remaining for days in an engorged lung, must tend to coagulation. The fact is, in many of these malignant cases there is scarcely sufficient vitality to prevent it. It is under these circumstances that the carbonate of ammonia is of incalculable value. I am fully satisfied that it aids the circulation through the congested pulmonic capillaries by its solvent powers.

In most cases where the system possessed sufficient vital power to react after the first chill, a very low form of remittent fever was associated with the pneumonia. The pulse and animal heat declined very much during the morning, but towards evening a febrile exacerbation generally occurred. This indication led to the free use of quinine in combination with the other remedies, and I thought with much advantage.

In none of our typhoid cases was depletion, either local or general, resorted to. Blisters were used in the latter stages of the disease, but with little perceptible effect. Mercury, generally in the from of blue pill, was administered from the first in all cases, without an exception, for the purpose of removing the latent pulmonic inflammation; but, as its effects were slow, the system of the patient had to be sustained by the powerful stimulation above mentioned, until the recurrence of the specific effects of the mercury.

Our usual formula was pil. hydrarg. gr. iij, and sulph. quinia gr. iij, Dover's powder gr. ij, every three hours until the mercurial impression occurred, at the same time continuing the use of stimulants and nourishment. In many cases, in which for days prostration was so excessive as to prevent febrile reaction, as soon as the specific impression of mercury was made, febrile reaction, with a good full pulse came on. Purgation was restrained with opiates generally in form of Dover's powder or tinct. opii.

Dr. Norwood's tinct. of veratrum viride was resorted to in some of our cases of active acute pneumonia. In such cases it is quite equal to its reputation, and Dr. Norwood, I think, deserves great credit for bringing it before

the profession. One case I will mention of double pneumonia, in which the pulse was a hundred and fifty, but small; skin very hot; acute pain in the chest on both sides; and great difficulty of breathing. The tinct. of veratrum was given in four drop doses every three hours. In twenty-four hours the general symptoms had so far subsided that the patient considered herself well. On withdrawing the remedy the same symptoms, but in a modified form, recurred again, and were a second and last time subdued by the remedy. For the pneumonia of very young infants the veratrum, in very minute doses, was resorted to with the happiest effects. For such cases I believe it one of the safest and best remedies in our possession. This constituted our entire treatment of nearly fifty cases of typhoid pneumonia, with the loss of only one, in which treatment was resorted to too late. After apparent recovery in some cases the lung remained indurated and impervious to air for several months. Iodide of potash in large doses invariably removed the condition.

A not inconsiderable observation of and experience in the management of typhoid pneumonia induces me to believe that, when treated as energetically by stimulants, as we ordinarily treat the active acute form by depletion, the mortality would be about equal in both forms of disease.

ART. IV.—*Histological Remarks upon a Secondary Cancer of the Pleura.* By J. J. WOODWARD, M. D., Assistant to the Surgical Clinic of the University of Pennsylvania. [Read before the Biological Department of the Academy of Natural Sciences of Philadelphia, June 21, 1858.]

IN a paper read before the Biological Department on a former occasion I presented certain anatomical details of three cases of cysto-carcinoma. (See *American Journal of Med. Sciences*, July, 1858, p. 54, *et seq.*) In two of these cases (Cases 2 and 3), the disease had returned after extirpation with fatal consequences to the patient. The remaining case (Case 1), in which the primary tumour was removed from between the scapulæ, had not yet proven fatal, but it was stated that the patient was in a dying condition, presenting symptoms which were believed to be due to secondary formations in the lung. These symptoms continued, and she expired June 9, 1858. As of great significance in connection with interpretation of the appearances here to be recorded, I would note the absence of fever during the progress of the case, the pulse which became progressively feebler not being much accelerated until a few hours before she expired. A *post-mortem* examination was held twenty-two hours after death, the results of which it is the object of this paper to record.

Post-mortem Examination.—A light mulatto girl, of small frame, exceedingly emaciated. Between the scapulæ in the site of the primary tumour was

a secondary growth of about the same size as the original, ulcerated at many points, sloughing and decomposing. On account of the diffluent and gangrenous condition of this growth, its anatomical details could not be satisfactorily made out.

The *heart* was small but healthy.

The *left lung* slightly congested but otherwise normal.

The *right pleura* contained more than a quart of a rich albuminous fluid of an oily feel, in which floated several large and beautifully diaphanous coagula of fibrin. The lung much collapsed occupied the upper and back part of the thoracic cavity.

Everywhere adherent to both the costal and pulmonary pleura, were opaque, soft, brain-like, pultaceous masses, which projected irregularly into the liquid filling the cavity. To the naked eye these pultaceous masses exactly resembled those which were described by me in the paper to which I have above referred as projecting into the cyst in the primary tumour in this case, and as more or less completely filling the cyst in Cases 2 and 3.

The *right lung* contained abundant pigmentary coloration, and was soft and readily torn. At several points throughout its substance were pultaceous nodules resembling the masses on the pleura.

The *liver* was nearly twice its normal size, and of a light yellow colour.

The kidneys, ovaries, uterus, pancreas, spleen, supra-renal capsules, intestines, and mesenteric glands, appeared normal. The encephalon was not examined. The several tissues were well preserved, no putrefactive changes being perceptible in any of the internal organs.

Portions of the liver, of the right lung, of the fluid from the right pleura, of the fibrinous coagula floating in it, and of the pultaceous masses attached to the pleura, were set aside for microscopic examination, to which they were subjected one hour after their removal from the body.

Microscopical Examination.—The *liver* was in an advanced state of fatty degeneration.

The *right lung* could be torn with needles for examination with abnormal facility; shreds thus obtained presented the characteristic arching of the pulmonary fibres. The preparation, however, was invariably obscured by large numbers of fat granules and globules (smaller and larger Aschersonian vesicles) and of pigment granules, the latter being isolated or associated in irregular groups.

The pultaceous nodules in the lung presented the same structural conditions which will be detailed below in connection with the pultaceous masses attached to the pleura.

The *fluid from the right pleura* of a ruddy straw colour, oleaginous to the touch, was composed chiefly of an albuminous solution, coagulating and becoming almost wholly solid with the heat of a spirit lamp. Microscopically it presented a small number of red and white blood-corpuscles; many of the former were perfectly normal, while others were variously shrivelled, with

indented margins, stellate and contorted as red blood-corpuscles often are when they have been floating for some time in exudations. In size these corpuscles corresponded sufficiently well with those of fresh blood. The white corpuscles were exceedingly few in number, but three or four having been seen in the examination of upwards of twenty separate specimens.

Besides these corpuscles, larger and smaller oil-globules in limited number floated in the fluid.

The *fibrinous coagula* floating in the liquid were beautifully transparent, and, studied with an eighth of an inch objective, presented in the clearest manner all the characteristic appearances of the best specimens of fresh fibrin obtained by whipping from normal blood. I would especially note the predominance in sufficiently thin specimens of well-marked interlacing fibrils with double contours over the granular appearance which is ordinarily observed with the fibrils. Entangled among the fibrils were a small number of red blood-corpuscles, and a far more limited number of white. In the examination of some sixteen specimens from different portions of the coagula, each view obtained presented from six to eight red corpuscles. In but one of these the presence of two white corpuscles was observed.

The *pultaceous masses* in the lung and attached to the pleura were made the subject of careful investigation. In many specimens obtained from different parts, and studied floating in the fluid from the pleura, no structures whatsoever were to be observed except *nuclei*, oval, oblong, or irregular in their shape, of the same size, and presenting the same morphological characters as those described and figured by me in the paper to which I have above referred, as occurring in the pultaceous masses projecting into the cyst in the primary tumour in this case.

When similar specimens were treated with dilute acetic acid, no change occurred in the nuclei; a large number of delicate fibrils, however, made their appearance between the nuclei, variously interlaced and holding the nuclei in their interstices. These fibrils will correspond with the *mucin filaments of Carl Wedl.* It may be remarked in this place that these filaments can be regarded in no other way than as artificially produced by the chemical influence of the acetic acid, since they could in no manner be made out in specimens floated in the fluid taken from the pleural cavity. I must, therefore, for this reason, utterly dissent from the view expressed by Carl Wedl, that the mucin filaments may, under any circumstances, serve as the stroma for a new growth. (See Carl Wedl, *Path. Histology*, edit. of Sydenham Soc., p. 78, and especially p. 563.) For the mucin filaments being the product of the action of acetic acid—being, to use Carl Wedl's own words (p. 563), "evoked into existence by that reagent"—can with no propriety be predicated of the unaltered structure. I regard, therefore, the nuclei in this case, and in those to which I have above referred, as imbedded in a structureless material of a glutinous consistence, and, probably, of an albuminous character; the latter opinion being derived from the fact of the development in it by the

reaction of acetic acid of the mucin filaments of Carl Wedl, which are only developed in albuminous fluids, as blood, pus, sputa from diseased lungs, &c. (Wedl, *loc. cit.*, p. 72.)

The pultaceous masses thus constituted formed irregular prominences projecting into the pleural cavity. These prominences, which were entirely devoid of bloodvessels, could not be considered closely allied to the dendritic arrangement described by Rokitansky in connection with many cancers of the serous membrane; from all such growths this differed not only in the absence of any *branchings* but in the absence, further, of any limiting membrane on the surface of the projections. The irregular character of the surface of the new growths in this case must, it would appear, arise simply from the fact of the more prodigal development of nuclei in certain situations than in others. And, indeed, after all, this fact, however we may presume to interpret it, lies at the foundation of all dendritic and papillary growths.

Observations.—Even in the present uncertainty as to what should and what should not be considered cancer, I presume no candid mind will deny the cancerous nature of the new formation above described. So far as morphological considerations can avail as the basis of classification, there can be no doubt of the correctness of such an opinion. But if in view of the unsettled state of our present histological views we appeal from the anatomical point of view to the clinical history, our view of the case appears still more abundantly confirmed. If, indeed, the history that I have written—the speedily developing primary tumour, the early return of the disease after extirpation not only in the cicatrix but in the internal organs, the rapid and progressive emaciation, the absence of fever, the presence of the growths above described, not merely on the pleura but in the lung—be not the history of cancer, to what *can* the term cancer be with propriety assigned?

This point settled, let us proceed, so far as possible, to interpret the phenomena above described; and, first, I would briefly refer to *the presence of red and white blood-corpuscles* in the pleural fluid.

Whatever opinions may be entertained as to the *possibility* of red corpuscles arising *de novo* in the substance of an exudation, no such opinion can, with propriety, be entertained in this instance. The red corpuscles, as will be seen by looking to the description above given, corresponded perfectly in size with those which would have been obtained by a hemorrhage (capillary rupture) into the exudate; and as, instead of observing embryonic or developmental forms, the complete and well-formed corpuscles were accompanied by shrivelled and misshapen ones evidently on the road to disintegration, we are not entitled to ascribe them to any other source.

Greater doubt, however, might lie in the interpretation of the white corpuscles also observed; since, as is well known, the formation of bodies isomeric with these (pus corpuscles, mucous corpuscles, lymph corpuscles, &c.)

does occur *de novo* in numerous exudates. As, however, here the number of white corpuscles present was very limited, not exceeding, probably, at the most, when compared with the red, the ordinary proportion of white corpuscles to the red in normal blood, such a *de novo* formation cannot be predicated with propriety.

The source of the hemorrhage from which these corpuscles were derived was, probably, rupture of some of the capillaries of the pleura during the exudation of the fluid found in the pleural sac; and the quantity of blood thus extravasated, as indicated by the number of corpuscles, must have been but trifling when compared with the fluid referable to the exudatory process. Similar hemorrhages are frequently observed in connection with many exudations.

The *coagula of fibrin*, which were found floating in the pleural fluid, I must regard as having been formed *after death*. Previously to death the fibrin was probably in solution. To this conclusion I am led by the following considerations:—

1. Time sufficient for coagulation had been afforded since death. The possibility of this view is, therefore, self-evident.

2. The clot was too clear and transparent to have been of long standing, the inevitable contraction of coagulated fibrin soon rendering it more or less opaque.

3. Of great weight, also, must be the comparison of this fluid with that of the cyst in the primary growth. That contained no coagula when first evacuated, but on standing twenty-four hours fibrinous coagula identical with these were formed, the remaining serum resembling this most closely, both in its appearance to the naked eye and in the large quantity of albumen it contained.

In view of these considerations I feel myself justified in the conclusion that the fluid in the pleura during life was an uncoagulated solution, rich in *fibrin* as well as albumen, resembling closely, therefore, the normal liquor sanguinis of the blood on the one hand, and inflammatory exudations on the other, to which last class of cases it is yet further allied by the presence of the capillary hemorrhage so common in connection with them.

But if this conclusion be, as I consider it, justifiable on the grounds presented, it becomes at once important, in a doctrinal point of view, when it is remembered that we can regard this fluid in no other light than as the blastema from which the nuclei of the pultaceous masses were developed. That it must necessarily be so regarded requires, it would appear, no argument, every reason which can ordinarily be adduced to establish the relation between nuclei or cells and the blastema in which they are developed applying here. We have here, then, a *second case in favour of the position* advocated in the paper to which I have referred, that the cancer blastema contains *fibrin* as well as albumen, a position yet more widely generalized by Vogel, who applies the term "fibrinous dropsy" to the blastema of all organized new formations. In order to make this case more significant in the argument, however, as well

as to show wherein its apparent peculiarities essentially consist, I would present on this head a few suggestions.

The peculiarities of this case lie—

1. In the extent of the pleural surface occupied by the new formation. It is, however, obvious that no specific distinction between this and other cancers can be grounded on this fact, which is one of *quantity* only and not of *quality*. Cancers of the serous membranes usually occupy a limited portion of the membrane. I know at present of no recorded case in which *the whole surface of a great cavity has been the seat of the growth.*

2. In the *quantity* of the exuded blastema. In this character it is strikingly allied to the primary growth in which we have seen a similar blastema existed in great quantity. (*Am. Journal, loc. cit.*)

3. *In the failure of any development of the elementary forms beyond the stage of nuclei.* This, however, can only be ascribed to a retarded or arrested development, and is, therefore, as was more fully pointed out in the paper above alluded to, rather a question of *time* or of *degree* than of essential nature; *for the very character of carcinomatous growths consists in the arrest at one period or another of the further development of the several elementary forms*, and it is because this arrested development frequently occurs at a different period in the *individual* elementary organs that there results as a consequence the multiplicity of form which is often regarded as characteristic of malignant growths.

But if, as here pointed out, the peculiarities in which the new formation under consideration differs from the more common cancerous growths reside entirely in questions of *quantity* of *time* and of *degree*, and not of *manner* or *essential nature*, it results that views of malignant growths suggested by this are to have their full weight when taken in connection with those arising from other cases.

I may also observe that no one can fail to be struck with much external resemblance between the appearances observed in the chest of this patient and those noticeable in certain cases of chronic pleurisy. This resemblance resides especially in the *extent* of pleural surface involved in the *quantity* of liquid exuded, and in the consequent *collapse of the lung.* The morphological characters above presented remove any possibility of classing this new formation with the products of inflammation in the sense in which that word is ordinarily understood, yet the comparison is full of interest as serving to show how slender is the border line which separates inflammation from other morbid processes. The single character which causes the resemblance here referred to appears to me to be simply the prodigally abundant exudation of blastema.

With regard to the *condition of the lung and of the liver.* The degenerated and collapsed condition of the lung is so readily accounted for by the consideration of the mechanical influence of the collection of fluid in the chest that it needs no special discussion in this place. The fatty degeneration of the liver is, however, worthy of attention, since it would appear from this that

the anæmia of the last stages of this so-called cancer dyscrasia has at least this in common with the anæmia of other exhausting affections (*e. g.* phthisis, &c.), that it may result in the impaired nutrition and consequent degeneration of normal organs.

Nor are we to look upon the fatty degeneration of the liver in this case as an accidental complication; it has been observed by others in connection with cancerous affections. Several parallel cases are detailed in Dr. Bennett's work (on *Cancer and Cancroid Growths*), and I am inclined to believe that further investigation will show fatty degeneration of the several organs to be a far more frequent complication of the latter stages of cancer than is commonly supposed.

It will be perceived that the whole of the above observations bear chiefly upon two doctrinal points: 1. Upon the cancer blastema. 2. Upon the cancer dyscrasia.

Of course this case, even when taken in connection with the three cases formerly described, will not justify us in positive conclusions; nevertheless, if these cases have been correctly detailed, they cannot be wholly without weight.

1. With regard to the *cancer blastema.* The pointings of these cases are towards an abandonment of the opinion that its special characters reside in the absence of fibrin and predominance of albumen in the exudation (albuminosis); and if in the present state of our knowledge we are yet constrained to regard the cancer blastema as specific, we are compelled to refer the specific character to some unknown modification which has as yet utterly eluded our investigations. Especially here is it to be observed that in mode and degree of coagulation, and in microscopical appearance when coagulated, both albumen and fibrin in the cancer blastema above studied *corresponded most exactly with the ordinary albumen and fibrin of the liquor sanguinis.*

2. With regard to the cancer dyscrasia I shall present no positive doctrinal suggestions, yet cannot but call attention to the fact that the fatty degeneration of normal organs above hinted coexists, as is well known, with a most characteristic fatty degeneration of the elementary forms of the abnormal growth. *The unknown modification of the liquor sanguinis in the exudation which stamps it as the cancer blastema is, probably, then identical with that unknown modification of the liquor sanguinis within the vessels in which the cancer dyscrasia is rooted.*

Lastly. With regard to the microscopical diagnosis of cancer I would call the attention of those who adhere to the doctrine of a *special heteroplastic cancer cell* to the fact of the existence of growths undoubtedly cancerous, *in which no cancer cells exist,* stating, at the same time, that in my opinion this does not invalidate the microscopical diagnosis, but must lead us to base a wise opinion on other data than upon the mere *shape* of the elementary forms; these data being found, as has been indicated by Carl Wedl (*Rudiments of Path. Hist.*), in the study of the evolution and involution of the growth as

deduced from a profound investigation of the whole morbid mass. This part of the subject, however, I shall not enlarge upon at present; it will, probably, form the subject of a separate paper based upon investigations with which I am at present engaged.

ART. V.—*Remarkable Cases in Midwifery.* By GEO. SHEDD, M. D., of Denmark, Iowa.

THE wife of the writer was confined with her first child at the age of 32 years. She is of about medium size, has small bones, round features, and tense fibres.

This labour lasted about twenty hours, during the last ten of which the pains were the severest in strength and pertinacity the writer has ever witnessed. The difficulty experienced was in the passage of the inferior strait of the pelvis. I thought at the time that the os coccygis gave way by fracture before the head engaged in the lower strait. The child weighed 7½ pounds. Its head was a sadly deformed object, and for half an hour its life was despaired of. This was in January, 1846.

In January, 1848, she became pregnant again. Everything in her gestation was normal except excessive size.

One night in August, the thirty-fourth week of her gestation, she awoke from sleep all wet with water still passing from her vagina. Examination discovered that the os uteri was open to about the size of a dollar, and the vagina well lubricated with mucus or "show," *but there was no pain whatever.* I sent for female assistance. Shortly, another examination was made—the uterus was opening rapidly; *still no pain was felt in any part,* or of *any description.* Shortly she spoke again that something was passing from her—the child was emerging from the os externum, and was soon born. Yet in *all this, no pain was felt.* There was the sensation of something passing from her much like the feeling in defecation, but easier than any motion of her bowels experienced for many months. During her pregnancy she had been disposed to costiveness. This child weighed 4¼ lbs.

I was alone, and while trying to take care of the new comer and to quiet the alarm of the patient, she told me that another was coming. I made a hasty examination, and discovered the head of another child about to lock in the lower strait. I did not notice the particular presentation, and before I could command time to give her attention, uterine pains commenced. At my next examination I discovered a face presentation, and the head fully engaged in the lower strait with strong pains. These pains continued about three hours before the child was born, and when born, as in the case of the first child, its head was badly deformed.

There were no pains felt in this latter case previous to the engagement in the strait any more than in the previous one. Had the latter been an occiput presentation, there is no doubt but it also would have been born without the sensation of pain.

In the latter birth I administered chloroform to mitigate the severity of her pains, and when she was delivered she seemed scarcely to have undergone labour. She could hardly be said to be "confined." In one week she was about the house almost as if nothing had happened. I present this as a case of interest, and without a parallel in respect to the absence of uterine pain, within the range of my reading or knowledge.

[A case of unconscious delivery will be found recorded in the preceding number of this Journal, p. 270.—Ed.]

Mrs. Y—— has given birth to five children. In all her labours she has been attended by the writer. Her oldest child is now 15, her youngest is an infant.

In her first gestation her waters "broke" on Monday morning, and continued to pass away gradually and daily until the next Friday night, when her pains for the first time were felt, and she, after rather a short and easy labour, became confined. The writer did not arrive till after expulsive labour had commenced. She was not conscious that any bag of waters broke during her labour. Everything was normal, and her convalescence speedy.

With her next child she carried her waters till the expulsive stage of labour. This child died of convulsions a few hours after birth.

During her third pregnancy she lost her waters three weeks before confinement. At first the discharge was sudden and abundant, and afterwards continued to pass away gradually and daily quite to the time of her labour. During these three weeks she was comfortable, and much of the time up and about the house. At her accouchement the usual bag of waters was presented, and broke under the observation of the writer. Other characteristics of a natural and easy labour were present. The child was healthy, weighed 10½ lbs. Her recovery was speedy. Much interest was felt at the time in her case by the ladies in the village.

Her fourth gestation and labour were natural and normal throughout.

About the middle of July last she became pregnant again. Her last catamenia commenced on the 12th of that month. Everything seemed right until the 9th of February, thirty weeks from last catamenia, when her waters broke and passed away quite freely. The 11th and 13th, they also passed away largely; the last day more than either or both of the other two, and as much quite as was usual at her former labours. On the intermediate days (the 10th and 12th) no discharges took place. During all this time she suffered much pain in her back.

After these discharges she went till the morn of the 4th of March without any further appearance of waters. At this time her waters broke again and

gushed away at first in large quantities, and passed gradually during the day. There was considerable pain in her back, as in the former case, and she anticipated premature labour. In the evening the writer was called in to see her. She was suffering some anxiety of mind in regard to her condition and prospects.

An examination per vaginam showed that the os uteri was in nowise dilated or dilatable. The lady was quieted with such assurances as could be given. She was told that the inner membrane, in whose waters the child is situated, remained probably unbroken, and she and her child were yet safe. After this she passed along for two weeks, when another discharge took place. At this time the discharge was still more copious than at any previous time, sufficient to saturate thoroughly three or four sheets. The pain in her back was considerable, and it was confidently expected by her attendants and herself that she would be sick. The writer did not see her at this time.

On the 21st, three days after the above, another discharge, which continued for about three days. Her attendants think her discharges grow more abundant as well as more frequent. After these discharges ceased, all became quiet again. Health comfortable.

The 28th, another bursting of the floods, which continued to trickle away for three days afterwards. On the 30th, the third day of this discharge, the writer made an examination. The os uteri was found dilated to the extent of about two inches, and very soft and pliable. The finger could be passed easily all over the presenting head of the fœtus within the uterus. A very abundant "show" was also present. How long this condition of things had existed cannot be known. She seemed ready for expulsive labour, yet felt and had felt no pain except in her back, and this was unlike the normal pain of labour.

I was confident that efficient labour would soon be ushered in. This was about 10 o'clock A. M. I spent much of that day and night with her, but without any special change. During the night I tried very cautiously the wine of ergot. This produced regular pains for three or four hours, and for a while they seemed normal pains, but they produced no appreciable effect upon the uterus. She said they seemed to work up rather than down. The next day the pain and the discharge all left her, and I thought the os uteri a little more contracted and a little firmer. The "show" was still present and abundant.

Previous to all the above discharges she became very much enlarged, "bloated," as she thought, about the abdomen. After each evacuation the bloat subsided, except her proper enlargement. There was no other evidence of ascites or anasarca.

During the time spent with her, on the above occasion, I performed ballottement several times with great ease and distinctness. Notwithstanding the great amount of evacuations, the fœtus seemed to float in water, and could

be raised in that fluid from and above the mouth of the womb a full inch. The motions of the child also were strong and distinct.

April 7. Made an examination this day for personal knowledge. Has been one full week without any discharge of waters. Bloat is very large, but lower in the abdomen than heretofore. Motions of the child perceptible, but not very distinct. Health good; is able to be about the house to some extent.

To-day is the 269th since her catamenia. The examination showed the os uteri dilated much as at the former examination, and the vagina well lubricated with mucus.

10*th.* Pain in the back, again, but otherwise comfortable; retired early and went to sleep. About half-past ten o'clock another bursting of the waters, and more violent than ever. About fifteen minutes after this a strong uterine contraction was felt, which was recognized as a normal labour-pain. After two or three more pains her husband came for me in haste, a distance of five or six squares. I hurried to the house and found him alone with the lady, unable to leave for help. She had four pains after my arrival, and was delivered of a plump, healthy child, weighing ten pounds. All was over before 12 o'clock. At this writing she is very comfortable, and has a good prospect of a speedy convalescence.

Several important questions present themselves in connection with this case. Whence these waters, so often evacuated and so abundant? Did they come from within the uterus? If not, whence did they come? But it seems to me certain that they came from within the uterus. If this be so, from which of the several membranes? Were they from the waters of the amnion? Has the liquor amnii ever been known to have been lost, and yet the fœtus be carried any considerable length of time afterwards? But it does not seem probable that these were the liquor amnii, for on one occasion, after the most abundant discharge then suffered, the fœtus was most evidently floating in water, as was shown by ballottement. So, too, in the case of her third child, the water passed away three weeks before labour, and every day during that time, and yet, at her confinement, she presented the usual *bag of waters.* Were they the waters of the chorion? The doctrine of the books, as I understand it, is that the space between the chorion and amnion in the latter stages of pregnancy becomes quite obliterated. Rigby gives a remark from Lobstein, "that the membranes continue separate from each other so late as the third and fourth month, and that cases now and then occur when a considerable quantity of fluid is found in labour at the full period of pregnancy."

How have these waters been enabled to gather themselves again so repeatedly, so abundantly, and, in some cases, so speedily? Did the ruptured membranes heal together again, or did new ones form for the retention of the waters?

Then, again, the opening of the os uteri to so great an extent, and its long continuance in that condition, are an anomaly in my reading and experience of sixteen years' practice. Have others ever witnessed the same thing, and can

it be explained? So, too, in regard to the "show," as perfect, as it seemed to me, and as abundant, or nearly so, as occurs in the expulsive stage of most labours. According to my reading and experience, this "show" is rightly regarded as the harbinger and precursor of labour not far distant. And yet, in this case, the vagina was lubricated with mucus, as in labour, for eleven days at least, and probably longer.

[For an interesting case of premature discharge of liquor amnii, and for some remarks on watery discharges from the uterus during pregnancy with cases, the reader is referred to the preceding number of this Journal, pp. 266 and 267.—Ed.]

Art. VI.—"*Meddlesome Midwifery is bad*" (Blundell).—A dissertation read before the New London County Medical Society in 1854. By Isaac G. Porter, M. D., of New London, Connecticut.

There are few medical maxims more truthful and salutary than that inculcated by the immortal Baglivi: "Scire multa, agere pauca," which may be freely translated, thus: "Let your knowledge, on all subjects, and especially of disease and its remedies, be thorough and complete; yet, beware of frequent and unnecessary interference with the recuperative efforts of nature." Call to mind any serious case of disease, and over what a multitude of particulars must the mind glance, before we can prescribe with safety or advantage. Hereditary and constitutional peculiarities must be regarded. Anatomy, physiology, pathology, diagnosis, and treatment, all must contribute their aid, not forgetting whether the disease is self-limited, or of indefinite duration, and in what form it is likely to terminate, that we may "obviate the tendency to death."

But the knowledge, referred to by Baglivi, is doubtless not simply professional. No species, if rightly used, is without value. Who has not been struck with this truth, in our courts of law, when he has witnessed the decided advantage which an advocate of general information possessed over his more ignorant opponent? Let the case have relation to some real or alleged instance of malpractice, as a "broken-bone case," and let a shrewd lawyer, who is a good anatomist (made so perhaps by a few hours' study on the point in question), be employed, and woe to the reputation and influence of the medical witness, with the jury, if he cannot tell the name of every little process, on a corresponding bone, presented to him, or the origin and insertion of every muscle implicated. It is *undue* advantage, I grant, which is gained, but it shows that "knowledge is power." And while it is affirmed that the same power makes itself equally felt in medicine, it must be conceded that, on scientific subjects generally, the various branches of natural history and the arts, our profession

is decidedly in advance of the others. There is something too in the nature of our pursuits, which, beyond any other, tends to produce sound, practical, common sense. A late President of the American Medical Association, in his annual address, says: "It has been my fortune to know many of my professional brethren, practising in obscure country situations, whose talent, sagacity, and practical information would, under more auspicious circumstances, shed lustre on their names and calling." But the amount of what we can *usefully do*, for our patients, when contrasted with this aggregate of knowledge, shrinks into comparative insignificance.

But it is our design to apply this doctrine particularly to midwifery, and to show, by practical and individual references, that the more we *know*, the less, generally, we shall *do*. In the sententious expression of Blundell, selected for our caption—"Meddlesome midwifery is bad."

First, in the order of nature, comes—

Abortion.—It is our purpose to speak merely of the use of the tampon. Without stopping to decide the mooted question, whether the hemorrhage proceeds from the placental superficies of the womb, and always implies a greater or less detachment of the placenta, or whether it is the result of "decidual hyperæmia, an exudation from the distended and overloaded bloodvessels of the decidua, without rupture;" in either case, the premature use of the tampon is alike injurious; in the former, by causing a remora, or accumulation of blood, within the uterus, and under the edge of the placenta, which it separates more and more; and in the latter, by preventing a salutary disgorgement from the overloaded vessels of the decidua, which condition, previous to the eruption, had shown itself by a sense of fulness and weight, which passed off with the flow. Safety, therefore, requires, where abortion is not certain, that we defer the use in question, as long as prudence will justify.

II. *Bleeding in Pregnancy.*—Plethora, doubtless, sometimes exists requiring the lancet. But there are symptoms, such as headache, flushings of the face, and full, frequent pulse, which are common to plethora, and to anæmia. In the latter case, the blood being impoverished, as it often is in pregnancy, does not afford the usual healthy stimulus to the nervous organs; hence the necessity of more *frequent* pulsation of the heart, to supply in quantity what is wanting in quality. The *fulness* of the pulse is owing to polyæmia, the vessels carrying only serous, watery fluids. The *headache* may result from congestion, and will be relieved by a stream of cold water to the head, mustard pediluviæ, purgatives, &c. These affections are all referable to a depraved condition of the blood, and the noxious influence it exerts on the nervous centres. So strong is the prejudice of common people in favour of bleeding in pregnancy, that, if in doubt as to its propriety, it is well to err on the safe side. Still, with nice discrimination, there need be no error. Confidence in one's self, decided opinions, and sound judgment, are safer counsellors than the fear or favour of popular prejudice.

III. *We next speak of converting one Presentation of the Head into another.*—These are the occipito-posterior or "forehead front" into an "occiput front," or a face presentation into a vertex, by replacing the head of the child on its breast. These changes were strongly advocated by Dewees, and he held any man incompetent to practise midwifery who was unable to detect and rectify them in time. It would require boldness to affirm that, in his hands it may not often have been done, and with advantage to the patient. Indeed, in early practice, the writer thinks he used to accomplish it, though the impression now is, that, though labour may have been shortened, yet that the amount of suffering was but little, if any, diminished. It is now settled by later and equally trustworthy authorities, such as Rigby, Mad. La Chapelle, Collins, and others, that the change is not advisable or necessary, that more evil than good results in ordinary cases, and that nature is competent, though with some delay and difficulty, to complete the delivery. In face presentations, Dewees maintains that forceps are generally required, while others claim that, in an ordinarily good pelvis, nature alone is perfectly competent. Boer, of Vienna, is very decided in his language: "Face presentations, being merely a rare form of natural labour, should be left to be completed by the natural efforts, since neither the mother nor her child is exposed to any more danger in this form of labour than in the most usual of all." In attempting to convert a "forehead front" into an "occiput front," we are often unsuccessful, and, if successful, only anticipate what nature often does of herself. The general rule (to which, however, there are a few exceptions) was quaintly expressed to me by an old practitioner of large experience, when speaking on this subject: "If," said he, "I find the head coming, I say to myself, *let it come.*"

IV. *Rupturing the Membranes to expedite Labour.*—Few operations require more judgment. Sustained by the opinion of Dewees, of its efficacy, in certain cases and conditions, and having long waited, in vain, in a case of tedious labour, the temptation to interfere, even where the os uteri is but partially dilated, and more or less rigid, is very strong. But, if performed prematurely, and when the delay is to be ascribed to other causes than an unbroken membrane, we may see cause deeply to regret our error. In place of finding the head advancing at the succeeding pain, we often have the mortification of meeting a strong, spasmodic contraction of the os uteri, as if it resented the ruder contact of the presenting part.

The question may be interesting, why more injury results from voluntarily *rupturing* the membranes, than follows a spontaneous rupture, at the outset of labour. In both cases, impeded action of the uterus results, owing to the fact that the head of the child presses unequally on the os uteri, in some portions more, and in others less; and hence the tumidity and puffiness which ensue. When the rupture happens before the neck is at all expanded, the uterine circulation better accommodates itself to the circumstances, than when the accident occurs later in the progress of labour.

It is only the *abuse* of this procedure which needs condemnation, for where there is great uterine inertia, or an inordinate quantity of liquor amnii, or the membranes protrude into the vagina, and are very *tough;* the os uteri meanwhile dilated, or very dilatable, the operation is safe and eminently successful. So, in cases of alarming prostration, with obstinate vomiting (labour meanwhile suspended), rupturing the membranes and irritating the os, has, in the writer's practice, resulted in the happiest change.

V. *Nates Presentations.*—In no other presentation is there the same demand for a "masterly inactivity." The welfare of both mother and child, especially the latter, is at stake, for if the soft parts of the mother are not well dilated by a gradual passage of the breech, before the head of the child enters, it is nearly always lost. Hunter used to advise pulling down the feet, and delivering by force, but in the latter part of his life, he ceased giving that direction, owing to the evils which resulted. As all know, there are two positions of this presentation: 1st. With the back of the child forwards, which is the most common; and 2d, with the abdomen of the child forwards. Now, it is very desirable, in order that there may be no delay in extracting the child's head, that the *back* of its head should come under the pubes. Strange as the fact is, whatever may be the presentation at the beginning of labour, the child (according to Nægele's law) will always, if not interfered with, be found with its anterior surface turned towards one or the other sacro-iliac synchrondosis, when the shoulders are beginning to pass through the outlet of the pelvis. The child makes a *complete turn*, in order to present its occiput under the pubis of the mother. But not so, if *dragged* down in the false position, in which it may first have presented itself.

Suppose, again, the back of the child comes down next the maternal abdomen (as is most favourable), strong traction, immediately after the exit of the nates, will cause the head of the child to engage with its longest diameter between the sacrum and pubis of the mother, and thus, by being locked, produce difficulty and delay.[1]

Again: "If the child is rapidly expelled, after the escape of the hips, being *assisted*, as it is called, the fundus of the womb ceases to press upon the head, the chin quits the breast, a space is thus left, and the arms, which are usually folded on the breast, slip into it, and finally turn upwards, so that not only the head enters the pelvis, in an unfortunate position, but it has also an arm

[1] A case of this description, in the hands of an ignorant midwife, furnished my introduction to this branch of practice. After the delivery of the nates, there was something to *pull at*, and, Amazon as she was, she had diligently, but ineffectually, applied her strength for the space of three hours. Having just completed my pupilage, under Dr. Dewees, I fortunately recollected his direction, in such cases, to make traction by raising the body of the child nearly perpendicularly, while pressure was made with the other hand on its occiput, and succeeded at the first effort. She had the cunning to intimate that my superior success was owing to greater strength in my arms.

on each side of it. Thus, not only the child is lost, through over-anxious interference, but it is extremely difficult to extract a head thus wedged into the pelvis with one or more arms."[1] Truly, there is wisdom in the Fabian policy—"*cunctando* restituere rem"—and in a parallel passage in Scripture, where it is said of some, "Their strength is to sit still."

VI. *Mechanical Irritation of the Os Uteri as a Means of expediting Labor.*—We now enter on the discussion of a disputed, but important point in obstetrics. Some years since, it was claimed by Professor Hamilton, of Scotland, a man of most extensive experience (and in his views he was supported, in the latter part of his life, by the prudent and judicious Burns), that the os uteri should always be dilated within twelve or fourteen hours from the *real* commencement of labor, which is betokened by regularly recurring pains, and a tightening of the edges of the os uteri. Spurious pains are not counted; and if there are intervals of repose, caused by agitation or mismanagement of any kind, there being, meanwhile, no injurious pressure, this interval is not included; but the limited time, specified above, dates from the recurrence of the pains. The same views are advocated by Prof. Miller, of Kentucky, author of a recent work on midwifery. These gentlemen also claim that, where *a shortening* process is not resorted to, women of feeble constitution are sometimes destroyed by a prolonged first stage (or opening of the os uteri), the uterus becoming exhausted, hemorrhage ensuing, &c.; and as an instance, adduce the case of the celebrated Princess Charlotte, of England. Her labour commenced at 7 P. M., and was not completed until 3 P. M. of the following day, a period of twenty hours. They also claim that in a prolonged first stage, the child usually perishes, as happened in this case, from pressure on the cord.

Having stated the claims of these gentlemen, we proceed to speak of the means by which they would expedite labour. As preparatory, they place great reliance on bleeding, when indicated by a full pulse, and especially in rigidity of the os, from premature rupture of the membranes, on cathartics and enemas: all of which, if indicated, should first be tried. But, if the pains still remain infrequent and of little power, the os uteri being thin and lax, we are instructed to introduce a finger to the os, during a pain, or, if necessary, when there is none, and by gentle semi-circular motions, first in one direction and then in the opposite, for about a minute, to *excite* uterine action. The finger is to remain, between the pains, and the excitation to be renewed, for several successive pains, more or less, according to the effect. This is claimed to be a vital, not a mechanical principle; and it is denied that the os is dilated at all mechanically, if the operation is rightly performed.

On the other hand, Denman, Ramsbotham, Collins, and other English authors, prefer and recommend *patience* in protracted labours, believing that nature is almost always competent to effect delivery, and with less risk, on the whole, than where interference of the kind indicated is attempted.

[1] Rigby.

As a further offset to this principle of Hamilton and others, that the os uteri must be dilated within the time specified, we have the opinion of Churchill, in these words: "Delay, in the first stage, involves very little, if any danger, however tedious it may be, for the stress or strain comes on parts where it can safely be borne; but delay in the second stage is very different. The nervous shock is never in proportion to the first stage, but to the second; and the greater the nervous shock, the more unfavourable the convalescence."

Without attempting, for the present, to decide which party is in the right, it cannot be denied that in excitation of the vagina and os uteri, we have a powerful agency for good or for evil. Through the excito-motary system of nerves, irritation of any set of nerves, transmitted to the spinal marrow, is reflected in divers manners, and upon different organs. Thus, as crude articles in the primæ viæ of children often result in abnormal muscular contractions, called convulsions, so irritation of the os tincæ and vagina, both before, and in labour, is generally followed by uterine action, or labour-pains. We often hear the expression—"stomach cough," or "worm cough." What is this but irritation of other organs, *reflected* on the lungs in the form of cough? So, under the operation of the same law, reversing the organs, we have vomiting in phthisis, and vomiting from irritation of the fauces with a feather.

This doctrine has been fully developed and insisted on by Tyler Smith; and the connection claimed is also shown in the fact stated by Madame La Chapelle, that the pains in the last stage of labour are often greatly increased by introducing two or three fingers into the posterior part of the vulva, and making pressure on the anterior commissure of the perineum. We have all, doubtless, seen this, when we have made the pressure indicated, for the purpose of exciting the uterus to throw off a retained placenta. Supporting the perineum will, occasionally, seem to give greater intensity to the pains.

In the last stage of labour, the head having long remained nearly immovable at the external parts, merely through uterine inertia, we think we have often hastened the crisis, and avoided the use of ergot, by placing the patient in the sitting posture, over a vessel of warm water, on the bed. The vapor may have been measurably advantageous, but the downward pressure of the child on the labia and perineum more so: a few pains completing a labour which was beginning to cause apprehension. So necessary, to some women, is this "orificial irritation," that, without it, their labours are greatly and unnecessarily prolonged; and with it, in such cases, seldom do we see more rapid and marked results.[1]

[1] An intelligent lady, of this city, the mother of several children, removing to New York, employed a physician in her accouchement, who, for some reason, did not act on this principle. Knowing, from past experience that labour was rapidly impending, and that assistance had previously been requisite, to centralize her pains, she would not suffer him to leave her side; and in this way, a whole day of intense anxiety was spent. Although, at the time, without *obvious* labour-pains, she at length said to him: "Doctor, if you don't assist me, I shall send for another physi-

Having, as we trust, established the principle as a most important one, we come now to speak of its abuse. It were superfluous to repeat Denman's old caution against frequent touching, as removing viscous secretions, and by mechanical means, producing a subinflammation of the parts. The principle not being one of *mechanical* dilatation, the most that is allowable, in any case, is so to press the finger upon any lax portion of the os, as to equalize the stress of the pains, and secure its equable dilatation. Unfortunately, we are supposed to be able to do much more for our patients in natural labour than is at all consistent with their best good, especially if it be rapid or violent. In such cases, the less we do, the better, if so be we inform ourselves as to the progress of labour. If, on the contrary, our manipulations are frequent and violent, we risk such undue uterine action as may result in a premature rupture of the membranes. Tyler Smith says: "The practice of taking pains has caused nearly as many accidents as the ruder forms of malpractice. The uterus has been ruptured by the uterine action of taking a pain, and a fatal convulsion has been caused by even the cautious introduction of the hand into the uterus." Dr. Ramsbotham has detailed two most interesting cases, in which rupture of the uterus occurred while careful examinations were being made at the acme of the pains." These results are immediate; but who shall decide how many of the hypertrophies, the indurations, and the ulcerations of the os uteri, so common at the present day, may be traced to unnecessary manipulation in some previous labour?

Omitting, for want of time, the discussion of other topics, involving meddlesome interference in practice, such as the use of forceps, and of ergot, retained placenta, and placental presentations, we only add, in conclusion, that, in the foregoing remarks, we have advised the *cautious use* of the tampon in abortion, not, of course, its disuse; we have spoken of unnecessary venesection in pregnancy, not denying that it is often proper; we have dissuaded from unnecessarily converting one presentation into another, not affirming but that it may be imperiously demanded in some cases. The same is true in regard to rupturing the membranes, to the management of nates presentations, and to the excited dilatation of the os uteri. It is not the *use* of measures (often proper) that we have objected to, but the abuse. Knowledge alone can guide us when, and how to act. It is much with the body corporate, as with the body politic; in medicine, as in the management of the family, the school, the college, the state. We must be careful, and not govern *too much.* The ruler must not *see* every trifling offence; or, if he see it, he must act as if he saw it not. "The true art consists in governing *just enough;* not too much, not too little. This by no means implies that a government thus administered requires less mental labour, less constant vigilance, less application of wisely concerted measures. It requires incessant *supervision,* but not

cian." This aroused him to do the needful, and the child was born, with only two or three pains.

incessant *action*. It imitates the example of a distinguished member of our revolutionary congress, who was a silent observer, in his seat, as long as he saw that the proceedings were taking a right direction. His voice was heard only when he observed that something was going wrong."[1] Let us not, then, unnecessarily attempt to shake the fruit from the genealogical tree, which, of itself, must soon fall into our lap. Let us perform none of the operations referred to, simple as they may appear, until we have given the subject the rapid, it may be, but "sober second thought" of careful deliberation.

ART. VII.—*Midwifery Cases.* By RICHARD MCSHERRY, M. D., of Baltimore.

CASE I. *Fatal Case of Cancer of the Womb; Pregnancy and Artificial Delivery.*—A lady from South Carolina came to this city in November, 1855, suffering with extensive morbid growth about the cervix and os uteri. She was sallow, anemic, and bloated in appearance, being somewhat dropsical and short-breathed, with much functional disorder of the heart. The globe of the uterus rose well up in the hypogastric region, and she believed herself *enceinte*. She was placed under the care of Prof. N. R. Smith and myself; but after careful examination and inquiry into the history of the case, we both considered her, in the last respect, mistaken. During the preceding summer her husband had been absent for some two months, and returned home about the 1st of July. The month had not expired before she began to suffer from copious and alarming hemorrhages. These continued more or less for three months, during which time she remained at home, under the charge of her medical attendant, Dr. L. Myers. This gentleman informed me by letter that he considered her pregnant, and that the hemorrhages were owing to partial separations of the ovum from its connections. He was strengthened in his opinion by the fact that she had over-exerted herself in attempting to lift a heavy weight; and furthermore that, upon repeated examinations with the speculum, he could detect no existence of any visible tumour. The great excrescences, then, that were so obvious to Dr. Smith and myself to the touch (for by this time the lady was unwilling to be examined by the speculum, and was even much averse to any examination, for fear of renewal of hemorrhage), must have sprung up since that time. But the disease had taken possession of her anterior to the hemorrhages, and anterior to her husband's return. This I infer from a remark that she made casually, upon his not recognizing her then at first sight. The cancerous cachexy had wrought a change in her appearance, manifest to the watchful eyes (*oculis fidelibus*),

[1] Pres. Day.

of her husband, before the local disease could be detected by the search of the surgeon.

In the month of October, she was removed by sea from Carolina to New York. Just before entering that port, she was seized with a fearful hemorrhage which nearly proved fatal to her. She reached New York, however, and under the care of Prof. Bedford, recovered sufficiently to be brought on (by canal) to her brother's house in this city.

After such repeated and profuse hemorrhages, Dr. Smith and myself agreed that the probabilities were against her being pregnant, and we made known this opinion to her, without, however, succeeding in changing hers. She believed herself pregnant, and she wished it so, for she was evidently under the conviction that her troubles were all owing to her pregnancy, and that as soon as she was delivered, they would all be at an end. There was no considerable hemorrhage at any time after she left New York, but from the immense fungi which surrounded the cervix, we were always apprehensive of a return. Occasionally there was free discharge of watery fluid, once amounting to two quarts, she said; and accompanying these discharges there was sometimes a show of blood.

Under a course of expectant treatment, varying between tonics, anodynes, and saline aperients, with the use of astringent and soothing injections, *in vaginam*, she improved steadily in her general condition, under which circumstances Dr. Smith withdrew, leaving me in sole charge as the family physician. In the mean time, the womb continued to enlarge, and the lady declared that she felt habitually the motions of the fœtus. At length, all doubt upon this subject was removed by the audible pulsations of the fœtal heart. I then told the family the state of the case, and my own conviction that she could never be delivered of a child *per vias naturales.*

During the month of March the lady suffered more than usual with pains in the loins and hypogastric region, which pains were somewhat alleviated by the external application of belladonna. There were continuous discharges of bloody mucus and water. On the 29th of March, I found upon my record that this patient was suffering with intermittent uterine pains, in addition to others; the womb had subsided, and was evidently preparing to throw off its contents. For days and nights these aggravated sufferings could only be appeased by free doses of morphia. The os tincæ was completely occluded under a circular cushion of fungous growth, but the fungi were not so large as three months previously.

Up to the 7th of April, the lady always felt the motions of the child; and the fœtal heart could be heard distinctly; from the 7th to the 10th, there was no motion, and although she thought she felt obscure movement on the 11th, and never after, there was no sound of the fœtal heart from the first stoppage of motion.

Her friends, warned of her danger, desired that Dr. Ferdinand Chatard,

on account of his great experience in obstetrical practice, should attend her with me.

I will now adopt, somewhat condensed, the language of my notes.

April 21, 22, 23. Mrs. D. has occasional labor-pains, with hemorrhage; womb opened to about the size of a silver dollar; parts exceedingly hard and thickened; the yield is in the anterior lip; bag of waters gradually projecting, but no increase of opening; thus the bag takes a globular form, hanging by its pedicle from the unyielding os. No portion of the child can be touched through the membranes. *Pains* intensely severe, but transient; pain persistent. She says she feels as if something ought to break away, or be cut away, to give her relief. Bowels and bladder receive due attention.

24*th*, 25*th*, 26*th*. Decomposition commenced in the fœtus; head makes some advance. Removed a protruded and fetid piece of scalp. Fetor from child, and decomposed granulations, exceedingly offensive; great abdominal soreness. Pains masked by excess of pain. Circle of os scarcely yields perceptibly; bones of the head can be felt overlapping. Pains soothed by anodynes. The induration and thickening of the parts extend as far as examination can reach; and fungous excrescences abound in every direction. Pulse quick, and without force; general aspect anemic and yellowish; features pinched and contracted. Fomentations to the vulva, and mild injections are grateful and detergent. Chloroform and ether given occasionally by inhalation.

27*th*. Morning. No improvement. Aperient: Ol. ricini, and enema. Syringe vagina, and bathe vulva, as usual. Anodyne of McMunn's elixir. Evening. Met at seven o'clock. Pulse has less force every day. Bones of skull are thrust against the os, which is dilated to near two inches in diameter. We determined to attempt the removal of the child. By the most patient perseverance, Dr. Chatard removed all the bones, one after another, of the cranium, and at half-past nine the body was brought down. Dr. C., having found an arm, drew down the hand, and inserted his hook. The body was soon extracted, but, in the passage, there was a vertical rupture in the posterior lip of the womb. The after-birth was duly brought away, and was large, flat, and indurated. The child was a male, and was partially putrescent.

I administered, during the operation, nearly an ounce of mixed chloroform and ether; she was never thoroughly under their influence, as she complained at times of pain; but more than once there was stertorous breathing, and intermittent, thready, and almost imperceptible pulse; once there was spasm; under such indications, the anæsthetic was suspended, and wine given.

The operation over, we gave her half a drachm of the fluid extract of ergot, and made moderate friction, under which the womb responded and contracted. The pulse rallied under the use of wine and McMunn's elixir, but flickered, without constant stimulation. Still she gradually failed, and died easily and calmly of exhaustion, at three o'clock P. M., on the 28th of April,

1856, in the twenty-eighth year of her age. She left two living children, the youngest being two years old. I could not get the privilege of a *post-mortem* examination.

This case is remarkable on account of the womb retaining its contents up to term, in spite of frequently repeated, and profuse hemorrhages; particularly profuse during the early stages of pregnancy. No doubt the ovum was saved by the very fact that the hemorrhages had no connection with it, or with the interior of the uterus. The diminution of hemorrhage in the latter stages, was probably more owing to finding a diverticulum in the placenta, than to the astringents and other remedies used, though doubtless the remedies were of service to her general condition.

None of her medical attendants here had any hope of saving the patient's life, notwithstanding the wonderful cures on record. When near term, the whole disk of the os uteri was too much implicated, to suppose that nature could throw off a living child, as in a case recorded by Dr. Ramsbotham, through a partial rent, an accident which the mother survived, though living in great misery for fourteen months. Our patient possibly might have been spared some days of suffering, if we had made incisions into the indurated texture, but on the other hand, also, the incisions might have hurried the fatal issue.

As to the proper treatment of cases where there is such a mass of disease, it is my conviction that we should resort, during the ninth month, while the child is yet living, to the Cæsarean operation. Both science and humanity seem to demand it. I read but the other day an article by M. Duclos, in the *Annuaire de Médecine*, &c., for 1858, taken from the *Revue Médicale*, recording a case of successful operation, in which both mother and child were saved, where a real or supposed *fibrous* tumour of the womb, obstructed or filled the passage through the pelvis.

And, as another evidence of this view, I introduce here the following paragraph from Dr. Churchill's *Diseases of Women* (Am. edition of 1857, edited by Dr. Condie, page 296).

"Dr. Oldham has related five cases in which pregnancy existed with open cancer, but whether pregnancy preceded the ulceration is not clear. One was fatal from rupture of the uterus, the second required craniotomy, and the third died exhausted six weeks after delivery. In a fourth case, he placed the patient under the use of chloroform, at the commencement of labour, and as, from the size of the cancerous mass, it was evident the child could not pass *per vias naturales*, he performed the Cæsarean section, and saved the child. Strange to say, the wound healed, and the mother recovered from the operation. A fifth died undelivered."

Facts such as these would certainly be a sufficient warrant for the Cæsarean section; and I do not think it is too much to say that, under such formidable circumstances, it is imperatively demanded.

Case II. *Death of a New-Born Infant from Spontaneous Hemorrhage.*—On the 28th of June last I attended an officer's lady, who had been living at a military post in Texas, for some years, in her third confinement. She had but recently arrived in this city, and her general condition was very unpromising. She was feeble, prostrate, nervous, and unable to move herself from one side of the bed to the other. On the 22d, she was taken with severe pains and hemorrhage, and there was a daily discharge of blood up to the time of delivery. The hemorrhagic tendency in her case was so well marked, that after the birth of the child, I paid particular attention to the condition of the womb; gave the fluid extract of ergot, made suitable frictions; used compress and binder, and withal, stood by her until her condition became comparatively safe. She had cold extremities and nervous chills after the labour was over, which I combated with valerian and paregoric. My attention was not particularly directed to the child; it appeared rather feeble at birth, and consequently, I delayed tying the cord longer than usual. Before bedtime I called, and found the lady pretty comfortable, but was informed that the child had been moaning, and had refused to take the breast. The nurse had given it a little sugar and water, and it had vomited mucus, stained with blood. It had passed urine and meconium. I told the nurse she might give it a little catnip tea, which is the panacea here for all the ills that young babies are subject to. In the night I was called to see it, by its father, who told me it was either dead or dying. I saw it about two o'clock, but it had died at one. I tried Dr. Hall's ready method, and in turning it upon its face, there flowed from its mouth a discharge of thin blood, or bloody serum. Life was totally extinct.

What caused this hemorrhage? Spanæmia, undoubtedly; but whence the spanæmia? Clearly from the condition of the mother. This lady had been living for two years or more in an enervating climate, at a barren and desolate outpost, where the troops, officers, and men, subsisted on the army rations. The food was too coarse for her, and she lived, as she told me, almost exclusively on bread and butter, and water, and none of these of the best. Occasionally, indeed, some few luxuries were obtained with difficulty from the seaboard, but they made no part of the regular diet.

Viewing all the facts, I considered that the child died of scurvy, and, in fact, upon inquiry, I found that both officers and men had experienced something of that disease at the same station.

The lady—though she had passed eleven years since giving birth to her last preceding child—had, under the circumstances, with some transient drawbacks, a good recovery, and regained, in a few months, a high condition of health, and with it courage enough to return with her husband to the field of his duty.

ART. VIII.—*Exsection of the Entire Fibula for Fibro-Cartilaginous Degeneration of the Bone.* By A. REEVES JACKSON, M. D., of Stroudsburg, Pa.

IT is believed that the following case is the only one on record in which either of the bones of the leg has been *entirely* excised. It is remarkable, also, as exemplifying with regard to the lower extremity what has been shown, by recent operations of Prof. J. M. Carnochan, published in previous numbers of this journal, to be true respecting the bones of the forearm, viz: that in some instances the long bones may be entirely removed without serious loss of function of the limb and corresponding joints.

In the leg it is commonly the tibia that forms the subject of such diseases as require excision; and as that bone is the one that enters into the formation of the knee and ankle-joints, and upon whose broad, articulating surfaces the weight of the body is sustained, obviously the entire excision of it could not be performed without leaving the patient a hopeless cripple, with a perfectly useless limb, and in a far worse condition than after amputation.

The present case, however, shows most conclusively that the fibula, which is comparatively an unimportant bone, may, when so seriously and extensively diseased as to demand it, be entirely removed, and the patient left with a useful member, whose functions are but slightly impaired.

History.—Mrs. R., thirty-seven years of age, the wife of a farmer, and the mother of four children, noticed some time during the month of May, 1849, a painless swelling of the outer side of the calf of the right leg, about four or five inches below the knee-joint. The enlargement slowly increased, and extended itself upwards and downwards towards the knee and ankle joints. The right foot and lower part of the leg became œdematous, and she walked with a slight limp which she attributed to weakness of the part. Her general health continued unimpaired. She attended to her ordinary household duties until the early part of September, when, in stepping down stairs she felt "something give way," and fell to the bottom. She was now unable to walk, and for the first time applied for medical assistance.

Dr. G. A. Kaski, of Bartonsville, Pa., was sent for, who, after attending the case a few days, and ascertaining its unusual character, requested my attendance in consultation.

Accordingly, we saw her together on the 19th September. On examination we found the leg much swollen, painful on pressure, and the foot considerably everted. There seemed to be evident fracture of the fibula, although not the least crepitus could be produced. The leg was lightly dressed with splints and bandages, and cooling applications ordered to be applied.

I saw nothing more of the case for nearly three months, when I was again requested by Dr. Kaski to see her.

At this time (Dec. 10th) the leg was much more enlarged, and the patient

complained more of pain. The splints and bandages had been dispensed with for several weeks, owing to the irritation of the integuments which they produced. The eversion of the foot was still more marked than before. The general condition of the patient was indeed lamentable. She was greatly emaciated, although she did not present the appearances of a person suffering from malignant disease. Extensive ulcerations had occurred over the hips and sacrum, resulting from her long confinement to bed, and the discharges from which had seriously drained her system. There was much œdema of the parts about the ankle, foot, and on the fibular aspect of the leg. No fluctuation could be detected at any point.

Her condition was now such as to render it clear that something must soon be done for her relief, or that she would sink from exhaustion. Amputation of the limb had already been suggested to her, but to this measure the patient as well as her friends firmly objected. Excision of the affected bone was now proposed, and the nature of the operation having been explained to her, she consented to have it done. It was accordingly decided to excise the bone on the following Monday. In the mean time, she was put upon a course of tonic treatment, and the use of the most nourishing diet enjoined upon her.

Operation.—The operation was performed December 22, 1849, in the presence and with the assistance of Drs. Kaski and Foss, and Messrs. Kübler and Shick.

The patient having been put fully under the influence of chloroform, the leg was partly flexed, and a longitudinal incision made, commencing about a half inch above, and an inch in front of the head of the fibula, and extended downward to the external malleolus, dividing the skin and peroneii muscles. A second incision, starting from the same point as the first, was made transversely, and carried directly backwards about two inches. The flap thus formed was rapidly dissected off from the bone (or rather what was formerly bone) until the upper four inches were fully exposed. I now made an attempt to detach the head of the bone from its tibial articulation, but found it a very difficult proceeding. However, the substance representing the fibula, flexible and much thickened, was finally separated by passing a narrow-bladed bistoury between it and the tibia, the edges of the wound being held widely apart, at the same time, by an assistant with blunt hooks. Great care was necessary at this stage of the proceedings in order to avoid wounding the anterior tibial nerve, which was here seen passing down.

The upper portion, being now detached, was drawn outwards and made use of as a lever to aid in separating the remainder. Seizing it with the left hand for this purpose, the fibres of the peroneus longus and the interosseous ligament were divided, the knife being kept close to the bone. In this manner, it was also separated from its connections with the soleus and the flexor longus pollicis pedis. Proceeding downwards, I found the attachments of the muscles and the interosseous ligament to the bone were so slight about

its middle third, that they were readily separated by the handle of the knife. At one point there was scarcely any vestige of bone remaining.

The most difficult part of the operation consisted in removing the lower end of the bone from its attachments to the fasciculi of the external lateral ligament of the ankle-joint and the several short ligamentous attachments to the tibia. It was finally accomplished, however, by making a third incision, perpendicular to the first at its lower end, about an inch and a half long, and dissecting the flaps carefully back; then by pulling the diseased mass strongly outward, sufficient space was obtained for dividing the connections with a slender knife. Care was taken to avoid injuring the small slip of synovial membrane which is here sent up between the tibia and fibula from the ankle-joint.

The tibia and astragalus were both found to be unaffected by disease.

There was very little arterial hemorrhage throughout the operation. The peroneal artery, which was the only one of great size that was really in danger, was carefully avoided. Some of the anastomosing branches of the anterior and posterior peroneal arteries were cut, but torsion being applied to them, the bleeding soon ceased. The venous and capillary bleeding was troublesome for a time, but finally ceased under the application of pressure and the use of cold water.

Dressing and Progress of Cure.—The edges of the wound were brought together and retained by several points of interrupted suture and adhesive straps, the whole being covered lightly with a roller bandage. A well-padded splint, four inches wide, and extending from a short distance above the knee-joint to four or five inches below the foot, was placed along the tibial aspect of the limb, and confined by a few turns of the roller above the knee and to the foot, in such a manner as to draw the sole of the foot more nearly to its natural position. Cold water dressing was then ordered, to be kept constantly applied to the wound. A full dose of morph. sulph. was given at bedtime.

The sutures were removed on the third day, at which time union was found to have occurred throughout the greater part of the wound. The patient was kept upon the use of tonics, and a full diet allowed. The subsequent progress of the case was entirely satisfactory; and at the end of three weeks the patient was able to sit upon a chair with the foot and leg resting upon an elevated cushion. In two and a half months, she was able to walk with a cane, by the aid of a stout gaiter-shoe, to the sole of which was attached a steel plate three-fourths of an inch wide and one-eighth of an inch thick, which, being applied to the outer side of the limb, extended upwards to a point opposite the tibio-fibular articulation, and the upper end, being well padded, was secured by a broad strip of ferreting passed around the leg below the knee. This apparatus she used for about two years, when she at length threw it aside, and ever since has merely used a cane.

Functions of the Leg and Foot.—She walks with a slight limp, bearing the weight of the body upon the inner side of the foot, the sole of which is con-

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Functions of the Leg and Foot.—She walks with a slight limp, bearing the weight of the body upon the inner side of the foot, the sole of which is con-

siderably everted. Owing to the detachment of the biceps muscle, she has no power to evert the leg when in a semi-flexed position. The soleus, however, continues to act from its tibial attachment. There is a tendency in the foot to be partially flexed from the detachment of the peroneus longus and peroneus brevis, those muscles being extensors of the foot, and antagonistic to the tibialis anticus and peroneus tertius, which flex the foot. The motion at the ankle-joint is somewhat impaired, owing, perhaps, to the long-continued eversion of the foot and the consequent side-pressure on the joint.

Appearance and Pathological Condition of the Bone.—It is thickened throughout its entire extent, but most so about the middle and upper extremity. At the largest point it measures five and three quarter inches in circumference. It is of yellowish-white colour, in consistence rather softer than cartilage, and thickly studded with osseous spiculæ imbedded in a dense, elastic, fibrous tissue. Its external surface is rough and irregular, and presents numerous small cavities of varying size. The periosteum is entirely removed from the posterior surface of the upper half of the bone, and, although still present on some parts of the anterior surface, it is much thickened and softened. At one point there is no bone whatever for a distance of an inch and a half, the upper and lower extremities being held together merely by a few shreds of periosteum. The lower part of the bone is tolerably firm, enlarged to about twice its normal size, and the periosteal investment unaltered. The interior of the bone, however, is softened, and degeneration of the tissue considerably advanced.

ART. IX.—*Dynamoscopy*. By J. M. F. GASTON, M. D., Columbia, S. C.

IN an article translated from the *Journ. de Méd. et de Chirurg. Prat.* in the *Charleston Med. Journal* for May last, on the subject of dynamoscopy, this language occurs: "We have now to announce another application of the aural sense to the diagnosis of disease; but in this service the stethoscope does not only inform the practitioner of the general state of his patient; it becomes, in addition, an important means of investigation in a host of special cases, and opens the door to a kind of exploration hitherto entirely unknown."

The process of investigation is subsequently spoken of as a discovery of M. Collongues, and the reader is left to infer that the data upon which he proceeds were not previously known to the profession. While I admire the zeal which is manifested in undertaking to analyze and systematize the various indications which may be presented in health and disease, it is due to science and to our country to have it understood that the basis of this discovery may be found in an edition of *Horner's Anatomy* as long ago as 1843, and doubtless earlier, as this is the sixth edition of the work. On

page 363 of vol. i., near the bottom, we read the following: "It is owing to the vibratory motion in the fibres of a muscle during their contraction that a rustling is heard in the application of the stethoscope to them. The hollow, distant rumbling when the meatus externus is closed by the finger is owing to the same vibration in the muscles of the finger employed. This is readily proved by the following experiment: Close the meatus with the end of the handle of an awl or a fork pressed against it by the finger, and it will be found that the muscular vibrations are continued along the instrument; plant afterwards the point of the instrument upon a soft, inelastic substance, so as to make, in that way, the closure of the meatus, and the rumbling will instantly cease."

Those who have read the article on the dynamoscope will at once perceive that all the points, as to the data of investigation, are clearly and definitely presented above in the extract from Dr. Horner's work, and to him belongs the originality or priority in detecting these phenomena, and even suggesting, by the awl-handle, the mode of investigating them which is now proposed.

We are none the less indebted to M. Collongues for the practical use which he proposes to make of the signs of organic action as revealed by this process, and it is much to be desired that his investigations may be continued. To impart a correct impression to the reader it will be necessary to transcribe the following statement touching the investigations of M. Collongues.

"The basis of the discovery is as follows: When one places in his ear the finger of a sick or a well person, he hears immediately a certain buzzing, which varies in character according to the physical condition of the individual. With this noise is heard, at irregular intervals, a sort of crisping sound that the author calls crackling or shrivelling. These buzzings and cracklings are evidently produced by the person whose finger is inserted into your ear, for if, instead of the finger of a living being you put that of a corpse or some inanimate body, you will hear nothing. Now, these sounds of a character constantly varying, it is the office of dynamoscopy to investigate, and though the science is of very recent origin, it may acquire in future very great importance. The author has already established that, in the normal state, the buzzing, &c., is slow, continuous, and equal, and that, on the contrary, it is, in the pathological state, rapid, strong, and unrestrained. When it is tremulous, unequal, now sharp, now deep, it indicates a seriously morbid state, and the case is still worse when the buzzing becomes intermittent. When the extremity of the finger, introduced into the ear, gives rise to no buzzing, it is an index of approaching death, except, of course, in cases of epilepsy, catalepsy, apoplexy, &c., when the noise ceases, to reappear with returning consciousness."

"M. Collongues, having remarked that the buzzings were more sensible when a solid body, such as wood or steel, was interposed between the finger and the auditory canal, conceived an instrument to which he gave the name of dynamoscope, and by aid of which his new mode of auscultation may be applied to all parts of the body. By this means, he has established that the cracklings are heard only at the extremities of the fingers and toes, that the buzzings vary in different localities of the body, and that, on the death of the subject, they cease in the extremities some time before disappearing from the

belly and chest. It is twelve to fifteen hours after dissolution ere the noise is entirely lost; after that time, the dynamoscope, applied upon any part of the body, gives no more evidence of sound than if tested upon any other inert mass of inorganic matter."

It is to be regretted that nothing more specific appears as to the intensity or feebleness of these sounds in an inflammatory or excited state of the organization contradistinguished from an anæmic or depressed condition of the system. The most important features of these sounds must have reference to the sthenic and asthenic phases of life, and while the extremes of these opposite states are very clearly defined and well understood, it is very desirable to have some clearer insight to the distinction between their near approaches to each other, and such, we trust, may be presented in these signs. The inquiries should be directed especially to this end until they lead to some useful diagnostic indications.

In the translation before us, no intimation is given of the views of the author as to the source of the sounds, and we are left with Dr. Horner's explanation based on muscular vibrations, which, to my mind, is not satisfactory. First, because the sounds are greatest where there is least muscular development, viz: at the extremities of the fingers and toes; and second, that the parts may be kept in a state of complete immobility for any length of time without lessening the sounds, and hence I infer they do not result from muscular activity in any shape whatever.

There is an explanation of these sounds, which I ask to present to the consideration of the medical philosopher, and to the careful investigation of the physiologist.

In an article entitled "A Criterion for Stimulants," which was published with the *Transactions of the South Carolina Medical Association* for 1855, I took the position that the capillaries serve an important part in facilitating the passage of the vital fluid, and I considered the relative promptness with which this portion of the circulation performed its office in different conditions of the system, maintaining that the promptness or delay of return of colour after pressure upon a part, was an index to the tone of the capillaries, and then to the general organization. This view has been corroborated by farther observation, and leads me now to submit to the public my impression that the sounds detected by placing the ends of the fingers in the ear, and also noticed in other parts of the frame, ensue from the passage of the blood through the capillary vessels, which are, of course, distributed chiefly at the extremities, where the arteries cease and the veins are developed to return the blood. To test the matter, I enveloped the extremity of my index finger with collodion, thus constricting it so as to produce painful tightness, and upon placing it in my ear the sound, which had previously been very perceptible, was almost entirely absent. Any one who tries this simple experiment will perceive at once the great difference produced by the arrest of the circulation in the extremity of the finger from this uniformly tight bandage, and

will be prepared to appreciate my reasoning on this point, in tracing the absence of sound to the absence of capillary circulation.

In illustration it may be mentioned that in varicose aneurism a sound results from the passage of the arterial blood into the venous circulation, and indeed any fluid which is forced from a vessel through a channel or channels of smaller calibre, moves for the time being with so much greater speed and friction as to favour the idea of an audible movement amongst its particles. The passage, also, from one medium to another by force always is attended with sound, and we must advert specially to the sudden transition in this respect which occurs through the tubular network of the capillaries. It is known to all that the composition of arterial and venous blood differs in so much as to be readily detected even by the eye, and must, therefore, present as it were different media, between which a connection is established and maintained by the capillaries. Before entering the heart again, the venous trunks collect into two main channels, and the blood is conveyed through the right ventricle to the lungs to be renovated; and here again we discover sounds which have been referred to the entrance of the air into the bronchial tubules. That some portion of these sounds may result from the passage of the blood through the capillary network of the pulmonary tissue is not improbable, and demands a thorough investigation. The cause of the sounds which result from the heart's action is involved in so much controversy as to throw no light upon our subject, and indeed these are not such points of comparison as to afford much assistance even were these sounds accurately understood. But it is known that in the passage of the blood through this organ, sounds do emanate from it; and in so far, a presumption is raised in favour of the explanation I have proposed, of the sounds at the ends of the fingers and on other parts of the body.

It is not my province to enter upon any analogical course of reasoning, but there are many things in connection with the ordinary processes in the acts illustrating the fact that when the space through which a fluid passes is suddenly contracted and again enlarged, it gives rise to a sinuous movement, and I would simply refer the reader to a consideration of these facts as throwing some light on the subject before us.

This whole matter may be viewed by some as an impracticable undertaking, but when it is remembered that the vital phenomena, which go to make up the indications of the various states and conditions of the organization, are not by any means fully understood, and that every feature which can be presented tends to elucidate the laws of health and disease, it does not become the scientific explorer to shut his eyes to such peculiar facts as those about which dynamoscopy treats. In the paper to which allusion is above made, I undertook to show the importance of the capillary system as an index to the nervous system and the general circulatory system, and if it should appear upon farther investigation that we have, through the sounds, given out at the extremities a guide in deciding upon the state of the capillaries, it must very

materially aid our explanations of the diseases involving the vital powers generally. We very much need some additional data in this class of cases, and the congestive and nervous elements of disease will be shorn of their obscurity if we come to understand properly the modifications of the capillary circulation. If the slowness in the return of colour after pressure upon a part is found to correspond with a very feeble sound at the extremities, they will afford a very strong corroboration of the indications of the pulse and the sense of prostration, which will enable the practitioner to decide most indubitably upon the use of stimulants. On the other hand, if there is more than ordinary sound at the extremities, accompanied with speedy return of colour upon pressure, and we find a strong pulse with general excitement, depletion will be indicated. Without such concurrent evidence of the true condition, it is well known to every practitioner how liable the symptoms of excitement or depression are to be misconstrued, and tentative bloodletting or a tentative resort to stimulants are consequently in common use in lieu of the indications which we may now receive through the capillary circulation.

As my former article, suggesting a criterion for stimulants, was noticed in the review department of this journal, I would present this additional element in the same train of phenomena, and trust it may lead to farther investigation of the vital forces.

ART. X.—*Two Successful Cases of Ovariotomy by the Large Abdominal Section.* By E. R. PEASLEE, A. M., M. D., Prof. of Surgery, &c.

CASE I.—Miss Susan K. Russell, of Oxford, Maine, aged 39, a tall, slender woman, of light complexion and delicate constitution, was first seen by me on the 3d of April, 1856. During the winter and spring of 1854, the urine had been scanty, the left iliac region had become painful, and a swelling appeared there in April of that year. In July, she applied to an irregular practitioner professing to cure dropsy; but being only debilitated by his medicines, she, in August, consulted Dr. Lamb, of Lawrence, Mass., who discovered she had an ovarian tumour, and advised her to enter the Massachusetts General Hospital, Boston. This she did on the 4th of September, under the care of Drs. Perry and Bigelow. She was there tapped, for the first time, in September, when about eight pounds of fluid, she thinks, were removed. Not receiving encouragement to remain longer at the hospital, she left at the end of about three months, and subsequently tried homœopathy and various popular remedies, to no purpose, till May, 1855. On the 15th of that month, she was tapped for the second time, by Dr. A. L. Hersey, of Oxford, Maine, and fourteen pounds more of fluid removed. The operation had been performed eight times in all by Dr. H. before the ensuing April; the fluid amounting to from thirty to forty pounds at the last tappings. The whole amount of fluid obtained by the eight tappings was 257 pounds.

On the 3d of April, 1856, I found the patient very much emaciated, and confined to her bed by debility; without appetite, and with a sallow, dry, and

shrivelled condition of the skin. The catamenial secretion had not appeared for nearly ten months. The circumference of the abdomen was forty-eight inches, and the tumour was evidently multilocular. On performing the operation of paracentesis, preliminary to settling the question of the propriety of removing the mass, by the large abdominal section, thirty-four pounds of fluid were removed from the two larger sacs; and the mass could then be moved somewhat in the cavity of the abdomen. I decided that the *left* ovary was diseased, and that there were extensive adhesions of the tumour to the parietal peritoneum; but as the patient had declined rapidly during the last three months—though she had always been tapped as soon as the fluid had reaccumulated so as to interfere with the respiration—and as she was of a hopeful temperament, I decided to give her the only remaining chance of living, even one month longer, as it seemed to me, by performing the operation of ovariotomy.

She was accordingly brought to Brunswick, Me.; and on the 19th of April, her circumference being forty-eight inches, I tapped her, removing thirty-seven pounds of a brownish fluid. It had accumulated since the last tapping, at the rate of over two and a quarter pounds per day. She continued very comfortable till the 23d of April, when the tumour itself was removed. Thirty hours previously to the operation, the bowels had been freely evacuated by castor oil; and only milk-porridge had subsequently been allowed as nourishment.

Operation.—The atmosphere of the room was rendered moist by the evaporation of water, and kept at a temperature of 80° Fahr. The bladder was evacuated, the pudenda shaved, and a sheet applied as a diaper. The patient was placed on a table, with the head and chest elevated; and the operation was performed in the presence of Dr. W. V. Wheaton, U. S. Army, Drs. Lincoln and Palmer, of Brunswick, Dr. Tewksbury, of Portland, Dr. Hersey, of Oxford, and my assistants, Drs. C. P. Frost and Wm. Hunter.

The circumference of the abdomen was now thirty-six inches.

The patient being under the influence of sulphuric ether, an incision was made through the abdominal walls, eight inches long, from the level of the umbilicus to the symphysis pubis; no hemorrhage occurring except from a small vein in the rectus muscle, which was ligated to avoid any delay from the oozing of blood. The tumor was found to be firmly *adherent everywhere anteriorly*, above the level of the umbilicus; and by strong bands, also, to the stomach, the omentum, and the right iliac fossa. Commencing, however, below the umbilicus, the hand, previously immersed in the artificial serum[1] (at a blood heat) used in my former operations, was introduced, and forced up between the tumour and the parietal peritoneum, thus *tearing* away the adhesions. This was effected slowly, since, in most of their extent, my whole strength was repeatedly applied before accomplishing the object. I attempted to separate the adhesions at their inner extremity (that in contact with the tumour) in every part, so that if any hemorrhage ensued, the bleeding vessels could be easily ligated. No ligature was, however, required, though for a few minutes there was a general oozing of blood over the whole surface. Next, the tumour was lifted out of the abdomen, and a double ligature of four threads of saddler's silk, waxed, but not twisted, was passed through the middle of the pedicle; each portion was tightly tied round its respective half of it, and the latter was then divided. The pedicle, before division, was seven inches wide, and one-quarter of an inch thick through the outer half of its extent;

[1] Composed of water Oiv; albumen (white of eggs) ʒvj; and common salt ʒiv. See this journal, Jan., 1856, pp. 52 and 57.

but it was so short that the ligature, when tied, came in contact with the tumour. I therefore cut it through to the substance of the tumour (the sac), on both sides of the latter, at the distance of one-third of an inch from the ligatures, and dissected out the lower portion of the tumour from between the two layers of the pedicle. The pulse became almost imperceptible, the instant the ligatures were tightened, but it soon rallied again. The tumour weighed eleven pounds; ten pounds of fluid were found in the cavity of the peritoneum, and two pounds more escaped without being measured, as was estimated. In structure, the tumour was so nearly identical with those removed in my first operations of this kind,[1] being a mass of sacs, containing fluids of different shades, that I will not describe it here. It is preserved in the museum of the Medical School of Maine.

Great care was taken to remove all the clots of blood and the remaining fluid from the pelvis. This was done with a fine sponge, and required at least twenty minutes for its accomplishment; and while effecting it, the hands were kept constantly moistened with the *artificial serum* before mentioned. This was also constantly used during the operation, after the peritoneal cavity was laid open, in order, if possible, entirely to prevent the actual contact of it with the air.

The incision was now closed by nine needles and six sutures (in as many spaces between the needles); straps of adhesive plaster were applied across the abdomen; the two ligatures were brought out below the lowest needle, at the end of the incision; a compress, wrung in blood-warm water, was applied, and covered with oiled silk; and the patient was put into bed at 5½ P. M., two hours after she was placed on the table. More than three-fourths of the time had been consumed, 1, in etherization (11 oz. of ether having been used); 2, in tearing the adhesions; and 3, in removing the blood from among the convolutions of the intestines, and especially in the pelvis. She is now pale, and the pulse is 120 and very feeble. The temperature of the room is to be kept at 70° to 75° (Fahr.); none but the water-dressing is to be applied, this being changed once in six hours; panada, milk-porridge, or broth, for nourishment; and stimulants and opiates to be given as may be required; the patient not to speak aloud; and the catheter to be used once in six hours. My pupils, Drs. Frost, Hunter, Grant, and Lincoln, now, in turn, remained in the house with the patient during the first few days after the operation; and from their hourly records, I extract the following account of her progress:—

At 6 P. M., she is becoming warm; appears natural, though the effects of the ether are not quite gone; and has pain in lower part of abdomen. Gave ℥ij brandy in warm water (to be repeated every half hour), and 40 drops of McMunn's elixir of opium.

8 o'clock. Still has some pain; relieved by being turned a little to left side; feels tired; there is some bronchial irritation, with tendency to cough, probably due to the ether; a teaspoonful of water at intervals, and 15 drops more of the elix. opii.

9 o'clock. Drew two ounces of urine, natural; pulse 110; she is in a gentle perspiration; reaction seems established. No effect of elix. opii; gave 25 drops more, and ℥j brandy.

12 (*midnight*). Pulse 112; respiration 23; has fallen asleep momentarily a few times. Very little pain. 2 o'clock A. M. Has slept well a few minutes; is cheerful; there is some pain in left hypochondrium (at the seat of some strong adhesions). 3 o'clock. Drew three ounces of normal urine.

[1] See the No. of this journal for April, 1851, page 382.

1*st day after operation.* 6. A.M. Pulse 120; respiration 23; pain through the back and hip; has some desire for food, and has taken some cracker tea. 7 o'clock. Gave 30 drops elix. opii. At 9 A.M, drew ℥iij urine, high coloured; expression of countenance good; she is inclined to sleep. 10 o'clock. Pulse 128, and quick; respiration 26; feels faint, and has a desire for food; some eructation of gas from stomach. 11 o'clock. Troubled by gas in the stomach; respiration still 26; has slept some, but not quietly.

1 o'clock P. M. Pulse 128, fuller; respiration 26; countenance fairer than before operation; skin moist, but warm; there is pain in left iliac region (seat of ligature); gave 40 drops elix. opii. Urine ℥ij, at 2½ o'clock; less pain since. 4 o'clock. Pulse 124; respiration 25; feels comfortable; has passed some urine involuntarily; has taken ice water and cracker tea. 5 o'clock. Ordered mucilaginous drink.

6¾ o'clock P. M. ℥ij high-coloured urine. 8 o'clock. Has slept three-fourths of an hour; pulse 122, and less compressible; respiration 24; no pain; skin cool and moist; she feels faint. 9¼ o'clock. Urine ℥j; introduction of catheter is painful. At 10 o'clock, 40 drops elixir opii.

1¼ o'clock A. M. Has slept most of the time since 10 o'clock, half an hour at a time, and feels much refreshed; pulse 120; respiration 26; skin moist and warm; slight change of position relieves feeling of fatigue; has taken only cracker water and mucilage of gum Arabic; warm drink agrees best. Had severe pain at 2 A.M. Gave 4 drops aqua ammoniæ dilut., and 30 drops elix. opii. Urine ℥iiiss, at 3 A.M., lighter coloured; slept one hour continuously; "feels finely."

2*d day after operation.* 7 A.M. Urine ℥ij; still very comfortable. 8½ o'clock. Pulse 108, softer; respiration 20; skin natural. 10 o'clock. Urine ℥iss, high-coloured; has taken ℥ss beef tea. 12 (*noon*). Pulse 104; respiration 24; has slept three-fourths of an hour; everything favourable. At 3½ P.M., urine ℥iij; has taken ℥ij beef tea since 10 A.M.; feels exhausted, and is inclined to sleep; countenance not so good. At 4½, still more exhausted; pulse weaker; gave brandy ℥j, with aqua ammoniæ gtt. v, and beef tea ℥ss. Pulse improved, at 6½ P.M., and skin moist; countenance no better. At 9½ in the evening, pulse 110, stronger; gave ℥ij beef tea. Complained afterwards of wind in the stomach, and pain in the abdomen; gave ℥ss each of brandy and elix. opii; is soon relieved. 1 o'clock in the morning. Has slept most of the last two hours, and is much refreshed; calls for beef tea, ℥iss; urine ℥iij. 4 A.M. Has slept most of last hour.

3*d day after operation.* 7 A.M. Urine ℥ij, normal; wanted more beef tea. 9 A.M. Pulse 102, good; respiration 20, natural; chewed some beefsteak, with a good relish; is quite lively and cheerful. The whole incision has united by first intention. 1 P.M. Urine ℥iijss; has complained of pain in the wound; some fulness of abdomen, above the umbilicus; gtt. xxv elix. opii brought relief of pain. 3 o'clock P.M. Pain returned; gtt. x elix. opii; beef tea hourly. Urine ℥iijss, at 5 o'clock. 6 P.M. Still has pain; elix. opii, gtt. xxxv; has passed urine involuntarily, with relief. 10 P.M. Beef tea ℥ijss. At 11, is restless; elix. opii, gtt. xxv. At *midnight*, urine ℥iss, turbid. At 4½, urine ℥ijss; beef tea and brandy freely, through the night.

April 27. 4*th day.* 8 A.M. Pulse 104, feeble; gave more brandy. At 10 A.M., pulse 110; she was removed to a sofa for an hour. At 1 P.M., urine ℥ijss. At 2 and 3½ P.M., gave milk-porridge ℥ij. At 4 P.M., urine expelled involuntarily; pain in region of bladder; gave 25 drops elix. opii. At 8 P.M., urine ℥iv. 9 P.M. Free from pain; pulse good, 106. 10½

P. M. Urine ℥ij; she has slept one hour and a half; has taken the milk-porridge freely. 3 A. M. Pulse 108; some pain in the abdomen; elix. opii, gtt. xx. Urine ℥iij, at 4½ A. M. At 7½ A. M., urine passed involuntarily.

28th. *5th day.* 9 A. M. Urine ℥iss, passed voluntarily; pulse 124; respiration 20; is very comfortable. 12 o'clock (*noon*). Pulse 100; urine drawn ℥ij, and at 4 P. M., ℥iij; has slept two hours this P. M. 6½ o'clock. Urine ℥ijss, and at 8, as much more. Considerable drawing pain is felt at the lower part of the external wound. At 9½ P. M., 50 drops elix. opii. Urine ℥ij, at 11 P. M. Pulse not over 108 to-day; has had but ℥j brandy. 12 (*midnight*). Urine ℥ijss; has had no pain, and has slept most of the time. 4 A. M. Urine ℥iij.

29th. *6th day.* 6½ A. M. Urine ℥ijss; pulse 102; she is very comfortable. At 10½, pulse 98. At 11, ℥ijss turbid urine. 2 P. M. Urine ℥ij. 3½ P. M. Same pain as yesterday; 25 drops elix. opii. At 4, urine ℥ij, and as much at 6, when the pain at once ceased. At 10 P. M., urine ℥iij; pulse 106 (the most rapid to-day); respiration 20. 12 (*midnight*). Pulse 112; has slept well. At 2 A. M., urine ℥iij; 25 drops elix. opii. At 4 A. M., urine ℥ij.

30th. *7th day.* Pulse 102; has had a good night, and is decidedly better; urine averaging as yesterday; passed it voluntarily, and did not again require the catheter. This P. M., two of the needles were removed, and two of the sutures, which were suppurating. At 5, an enema of soap and water was administered, which returned without effect; some irritation of bladder afterwards, till 3 A. M., when 65 drops elix. opii had been given in three doses. The constant attendance of my assistants ceased from this time.

May 1. *8th day after operation.* The best day yet. Removed five more needles and two sutures; is taking eggs with wine. 7½ P. M. 30 drops elix. opii.

2d. *9th day.* Had a free spontaneous alvine evacuation at 4 A. M. Has had some soreness of the mouth the last two days. Removed the remaining two needles and two sutures, this P. M. Another alvine evacuation, at 4 P. M., followed by some exhaustion; pulse 88; respiration 20; is in a gentle perspiration; ordered milk-porridge with rice. 9 P. M. Feels some stronger; a solution of tannic acid (℥ss) in glycerine (℥j), for the aphthous state of the mouth.

3d. *10th day.* Is better; pulse 88 at 2 P. M.; has had oyster-broth; quinæ sulph. (gr. j) and port wine (℥ij) every four hours; comfortable through the day; took an enema at night, which operated freely, but made her restless till elix. opii, 25 drops, were given.

4th. *11th day.* Pulse 92; much stronger and better; beefsteak and potato for breakfast; all appears right; had a spontaneous alvine evacuation.

5th. *12th day.* Slept well through last night; perspired considerably; took no opium; diet as yesterday; pulse in the morning 82; has some pain at the lower part of the abdomen, and mouth is still somewhat sore; some pus had accumulated under the lowest strap and around the two ligatures; took 48 drops elix. opii to-night in two doses.

6th. *13th day.* Pulse 80; mouth better; free suppuration round the two ligatures; at 9 P. M., a considerable quantity of pus was removed from the points made by the needles, and from around the ligatures.

7th. *14th day.* Very well, as yesterday; some three or four ounces of purulent matter are to-day discharged from an abscess by the side of the ligatures, where it had for three days formed a swelling; she is very cheerful; pulse 92.

8th. *15th day.* Slight discharge from the abscess to-day; she is better in all respects; pulse 92; tongue for the first time clear; appetite improving.

9th. 16*th day.* Discharge slight, and of true pus; in all respects as yesterday.

10th to 14th, inclusive. She has had comfortable nights without the opiate, and a good appetite; the discharge from the abscess diminished daily, and ceased in ten days. Meantime, however, another small abscess had formed an inch and a half above the ligatures on the middle line, and discharged for two days. A third also, smaller, subsequently appeared above this; there is a regular daily alvine discharge. From the 9th to the 13th, a crop of sudamina covered the surface on the abdomen over which the plasters had been applied; the pulse has been from 84 to 76.

15th. 22*d day.* Sat up a few minutes for the first time. To take one pil. rhei comp., and which was repeated the next morning. She progressed daily until the 24th, when, having had much irritation of the bladder, and a sabulous deposit in the urine, I explored that organ, but found no calculus. Ordered spts. nitri dulcis ʒj every four hours, which gave decided relief in two or three days. On the 29th May (five weeks and one day after the operation), she sat up one-half of the afternoon. She also to-day first rose from the bed without assistance, and stood alone. The ligatures are not yet loosened.

June 4. 39*th day.* Rode out for the first time; is doing well in all respects.

8th. Menstruation commenced and continued five days.

Miss R. returned to Oxford on the 24th of June. On the 13th of July, she reported that another abscess had formed, and discharged very freely, and that she had much soreness and pain in the left iliac region, or "where the ligatures had been applied." She had not been able to sit up all the time, and the ligatures had not yet come away. She subsequently wrote that the first ligature came away on the 30th of July, and the other on the 26th of August, the latter (which inclosed the thicker half of the pedicle) *without any loop.* Some discharge around them had continued until the day on which the last came away.

She subsequently gained more rapidly in health and strength, but could not exercise much up to the 24th of September; when, also, there was still some tenderness in the left iliac region.

She called on me in April, 1857, one year after the operation, and I was surprised at her appearance of perfect health. The cicatrix of the incision had contracted to five inches. The catamenia have been regular since their return six weeks after the operation. She is still not strong, though constantly gaining in flesh. She, however, soon afterwards resumed her previous occupation as a milliner, and continues in good health, to the present time (Aug. 25, 1858).

Remarks.—I. The result in this case indicates that the operation of ovariotomy is not in itself so dangerous as is generally represented; and my next preceding case, reported in this journal,[1] warrants the same conclusion. The extremely emaciated and debilitated condition of the patient would have promised a tedious recovery, even if the disease could have been removed at once without an operation; and the latter was resorted to as affording the only remaining probability of it. And that condition must be my apology for so minute an account of her progress during the first ten days after the operation.

[1] See the number for January, 1856.

II. Catheterism was necessitated more frequently than had been anticipated, since the irritation of the bladder demanded more frequent evacuations. This irritation, indeed, was the principal cause of suffering after the operation, and to remove its effects alone the elixir opii was given. It ceased at the end of three weeks and a half, under the use of the spts. nitri dulcis. It was doubtless mainly produced by the ligatures (so near the bladder) and the formation of the abscess which discharged on the fourteenth day. The use of the catheter was discontinued on the seventh day.

III. The pain in the lower part of the abdomen on the twelfth and thirteenth days was also due to the abscess just mentioned. A suspicion at first arose that the latter might be located somehow in contact with the pedicle, and therefore might partially discharge into the peritoneal cavity. But I soon satisfied myself that the matter was formed in the subcutaneous areolar tissue, around and to the left of the ligatures. The two smaller abscessess were also located in the superficial fascia.

IV. The needles and sutures were removed on the seventh, eighth, and ninth days, they having been removed as soon as loosened by the ulcerative process. This would have been earlier established in most cases.

V. An enema was first given on the seventh day, and the first free alvine evacuation occurred on the ninth day. I was deterred from an earlier use of laxative means by a desire to avoid increasing the irritation of the bladder, and in the pelvis generally.

VI. Why were the ligatures retained so long? the first just fourteen weeks, and the last eighteen weeks and five days? Doubtless, the abscess had some instrumentality in this respect. Probably they were caught by granulations after it began to close up, and might have been removed much earlier by slight traction. It is also evident that their retention was a source of irritation and exhaustion to the patient. It is, however, worthy of repetition here that, while the first came off, as usual, with its *loop*, the other, which had inclosed the outer and thickest part of the pedicle, had been *untied*.

Case II.—Mrs. Hannah Holt, aged 27, born in Leicestershire, England, of light complexion, married, and the mother of four children, was first seen by me in consultation with Dr. L. M. Knight, of Franklin N. H., on the 16th of September, 1856. She had first noticed an enlargement in the left iliac region in April, 1855, which gradually increased, and an exhausting menorrhagia ensued. The real nature of her disease was ascertained by Dr. K. in the fall of 1855. In May, 1856, she was for a few days in the Massachusetts General Hospital, but received no encouragement to remain. A variety of medicines administered to reduce the enlargement had no beneficial effect.

The downward pressure of the tumour had of late produced a painful prolapsus of the uterus and the fundus of the bladder; both of which I found protruding from the vagina, though she was constantly confined to her bed. Indeed, it was found impossible completely to return them within the vagina. She was pale; the pulse was 100, small and quick; the tongue was red, and the appetite gone. A large tumour could be felt in the abdomen, apparently

surrounded by fluid in the cavity of the peritoneum. The umbilicus was prominent, and the circumference of the abdomen was thirty-six inches.

On tapping the patient, we obtained thirty-four pounds of the usual clear, gelatinous fluid, when it was decided that the remaining unusually solid mass was a diseased left ovary, quite firmly attached at several points by adhesions. The uterus and bladder could now be returned and retained within the vagina. It was estimated that six pounds more of fluid came from the puncture during the twelve hours after the tapping.

As the patient was not yet much reduced in flesh, and would probably soon regain her appetite and strength on the removal of the pressure which had caused her recent suffering, but could expect only constant recurrences of such sufferings till worn out by her disease, and was withal of a very elastic constitution and very hopeful temperament; I deemed this a case in which ovariotomy was justifiable. I therefore advised that if she soon rallied again in all respects, but also soon refilled and suffered again as now, the operation be performed without further delay. All my expectations in these respects having been realized, she came to Hanover, N. H., on the 24th of October; was again tapped on the 26th (twenty pounds of fluid being removed); and the tumour was removed by the large abdominal section on the 28th of October, 1856.

All the preparations of the apartment and the patient were made as in the preceding case (see page 365); and the operation was performed in the presence of Drs. Albert Smith, of Peterboro, J. A Smith, of Hanover, S. G. Wood, of North Enfield, and Messrs. C. P. Frost, E. Blanchard, W. B. Cobb, D. M. Goodwin, and N. S. Goss, medical students.

Operation.—Began to administer the ether at 3 P. M., it producing its effects very slowly, and after free vomiting of bile. On making the incision, eight inches long, through the parietes of the abdomen, several pounds (six pounds, perhaps) of fluid escaped from the peritoneal cavity. The sacs constituting the tumour were so small, that very little in the way of diminishing it could be accomplished by evacuating them. It was firmly adherent above on the right side, and these adhesions were torn away. But at the lower part of the tumour were two adhesions on the left side, and one on the right, so strong as to resist my whole strength in the attempt to tear them; and as they were in the form of tendinous bands, three-quarters to an inch in diameter, I passed a strong double ligature through the centre of each, and tying each of its two portions round one-half of the band, divided the latter. Thus, six ligatures had already been applied. While attempting to tear the adhesions, the substance of the mass itself gave way at one part, and most of the blood lost in the operation (probably about thirty ounces) escaped from its ruptured vessels. The tumour thus cleared was seen to be the left ovary, as had been predicted; and to the pedicle, being but five inches wide, and nowhere more than one-quarter of an inch thick, a double ligature of three threads of saddler's silk was applied as in the preceding case, and the tumour removed.

So much blood had escaped among the convolutions of the alimentary canal, from the stomach to the bottom of the pelvis, that at least three-quarters of an hour were spent in making sure of its entire removal, the exposed surface being all the while kept moist by the free application of the *artificial serum.* The incision was then closed by ten needles and nine interrupted sutures between them, and adhesive straps and the water dressing were applied as in the preceding case. All the ligatures (two for the pedicle and six for the bands divided) were brought out at the lower end of the incision.

The *tumour* removed weighed nine pounds; it being of the areolar variety, or a congeries of small sacs, connected together by a large amount of areolar tissue.[1] Eleven pounds of fluid also were removed from the cavity of the peritoneum at this operation.

The following account of the patient's progress is extracted from the hourly record kept in turn by my pupils, Drs. Frost, Cobb, Goodwin, and Goss.

The patient was placed in bed at 6 P. M. Directions as to nourishment, catheterism, &c., as in preceding case (p. 366). Pulse 120, not very feeble; complains only of thirst; took some brandy and water. At 8 o'clock, reaction was fully established. Took thirty drops elixir opii; is still thirsty; 10 P. M., temperature good. She is pale; complains of thirst; sleeps two to five minutes at a time. Drew urine ℥ij; gave elixir opii fifteen drops. 12 o'clock (*midnight*). Has had some quiet sleep; surface warm; pulse 128; is still thirsty. 2 A. M. Is sleeping quietly; pulse 120; general appearance good. Ten drops elixir opii at 1½ o'clock. 4 A. M. Bright and cheerful; less thirst; no pain; urine ℥iij, concentrated. Has been sleeping five to ten minutes at a time. No brandy since 7 last evening.

October 29, 6 A. M. *Next day after operation.* Is comfortable, and has less thirst; pulse at 10 A. M., 120; complains of the mouth feeling hot; takes small bits of ice; has slept some. 11 A. M. Urine ℥v; troubled by flatulence. Gave five drops aqua ammoniæ every hour; twenty drops elixir opii at 12.

She rested quietly, sleeping most of the time till 3 P. M. The panada to be changed for beef tea. Not much thirst; was distressed at half past 3 by flatulence. There is some tympanites; became nauseated, and vomited a green fluid, which much relieved her. At 6 P. M., is quiet; urine ℥ijss. At 7, pulse 128; a slight heat of the surface. 9½ P. M. Pulse 130; is drowsy; sleeps, though with movements of the extremities, most of the time till 11 o'clock, when the pulse was 128, and she was relieved by the escape of some of the accumulating gas. Tympanites not increased. At 1 A. M., urine ℥iv; Pulse 130; feet cold; warm cloths applied; is again nauseated. Gas raised freely from the stomach with much consequent relief. At 2, no pain or nausea. At 3 A. M., pulse 125; gave ten drops elixir opii; quiet, and sleeps at times till 7½ A. M.; urine ℥iv. The aqua ammoniæ and beef tea had been given at intervals through the night.

30th, 9 A. M. 2*d day after operation.* Is quiet and comfortable; pulse 128; slept from 9½ to 10½ A. M. Afterwards distressed by gas in the abdomen; tympanites is increased; gave an enema of warm water f℥iv, containing ol. terebinth. ℥j.

12 (*noon*). Tympanites and distress increasing. She is annoyed by mucus in the throat and tendency to cough. Passed a large rectal bougie *per anum* into the sigmoid flexure, which brought away a considerable amount of gas, with immediate relief to the patient. She then slept till 1½ P. M. At 3, urine ℥iv; cough relieved; tympanites diminished. 7½ P. M. Some spasm of the sphincter ani with pain; pulse 120; urine ℥ij. *A discharge simulating the catamenial appeared to-day.* She slept in the evening; less tympanites; twenty drops elixir opii at 10½ o'clock. 2½ A. M. Urine ℥vj; pulse 106.

31st, 7 A M. 3*d day after operation.* Face somewhat flushed; some thirst; pulse 120. Has some cough from mucus in the throat, but cannot

[1] It is preserved in the museum of the New York Medical College.

raise it; no pain. Has had a pretty good night's rest. Gave mucilage of gum Arabic. At 8, urine ℥iv.

12 (*noon*). Takes beef tea with relish; elixir opii, ten drops for the cough. Her face remained flushed, and the pulse 128, till 2 P. M., from the irritation in the throat; urine ℥iij. At 4, slight headache, the room being too warm. Cough troublesome; ten drops more elixir opii. 8 P. M. Urine ℥v; pulse 120; is comfortable, except fits of coughing. Used the rectal bougie with much relief. The cough persisting, twenty drops elixir opii were given at 9 P. M., and ten drops at 9½ o'clock, and at 11; pulse 116. 12 (*midnight*). Pulse 112; skin moist. At 2 A. M., urine ℥v. Tube left in the rectum. At 4, pulse 108.

November 1, 7 A. M. 4*th day*. Has passed a quiet night. Wound united by first intention through its whole extent; removed tube from rectum; pulse 104. Gave ten drops elixir opii for the cough. At 8, urine ℥iv; has expectorated some; passed rectal tube again, with relief; ten drops elixir opii at 10½; cough still troublesome, but diminished; pulse 110; at 2 P. M., 105; urine, ℥iij; flatulence; still use the rectal tube. At 8 P. M., urine ℥iv; pulse 115; cough troublesome; fifteen drops elixir opii, and fifteen more at 10 o'clock. Ditto at 12 (*midnight*), to relieve a severe paroxysm of coughing. Again used the rectal tube, with relief, followed by sleep, till 3 A. M.; urine ℥iv.

2d, 9 A. M. 5*th day*. Very comfortable; urine ℥iv, 2 P. M. 3½ P. M., urine ℥iv; cough still persists; ten drops elixir opii at 7, 8, and 9 P. M.; urine ℥iv; abdomen still distended. The use of the rectal tube was again followed by relief, and a quiet sleep for two hours. 1½ A. M. Urine ℥iij, somewhat turbid. *Catamenial discharge* diminishing. At 5½ A. M., a severe paroxysm of coughing; gave twenty drops elixir opii.

3d, 7 A. M. 6*th day*. Cough troublesome still; ten drops elixir opii. Used rectal tube at 11; pulse 112. She is very comfortable and cheerful this P. M. At 3, pulse 120; needles and sutures not yet loosened; elixir opii, fifteen drops. At 12 (*noon*), she passed urine without the aid of the catheter. At 5 P. M., gave ten drops, at 7½ twenty, and at 9½ ten drops elixir opii for the cough. Her nourishment has been beef tea the last three days. At *midnight*, pulse 112; urinated voluntarily. At 3 A. M., had a violent paroxysm of coughing; twenty drops elixir opii, and twenty more at 7 A. M. Catamenial discharge ceased last evening.

4th, 10 A. M. 7*th day*. Patient comfortable and cheerful; pulse 108; removed three of the needles and three sutures; pulse 102. Used the rectal tube at 12, with relief; urine drawn, ℥vj at 11 A. M, and ℥iij at 4 P. M.; pulse 120; twenty drops elixir opii, and fifteen more at 6 P. M. At 10 P. M., she passed ℥iv urine voluntarily; pulse 104. Catheter not used at all after this time.

5th, 6 A. M. 8*th day*. Has rested well without any opiates since 6 o'clock last evening; evacuates urine freely; no cough; pulse 104. 11 A. M. Removed three more needles and two sutures. An enema of soap and water was administered; no result. Oleum ricini ℥ss at 1½ P. M. Three free alvine evacuations occurred in the P. M. Twenty drops elixir opii after the last one.

6th, 11 A. M. 9*th day*. Patient doing well in all respects. Removed the four remaining needles and sutures. No cough or flatulence remaining.

7th, 10*th day*. Patient doing as well as could be desired. Appetite good; strength increasing.

On the 8th, and again on the 10th November, the bowels were moved by

an enema, the pulse meantime being at about 92. All the adhesive straps were removed on the 12th November (15th day after the operation), and she sat up for the first time fifteen minutes; pulse 84. A small slough of the skin had occurred where I had applied the nitrate of silver as a guide in making the first incision.

From this time, the patient steadily gained, until she was able to return to her friends and family. I left her on the 17th November, in the care of Dr. J. A. Smith, who reported that the two ligatures around the pedicle came away on the 26th of November, twenty-nine days after the operation, they having evidently become loosened three days previously. The remaining six ligatures came away as follows: November 28th and 30th, and December 13th, 20th, and 28th; two having come together on November 30th. She returned to her family on the 2d of January, 1857, and has remained in good health up to the present time (August 20th, 1858). The catamenia reappeared sixteen weeks after the operation, and have recurred regularly ever since.

Remarks.—I. In regard to the patient's strength at the time of the operation, this case presents a marked contrast to the preceding. With the exception of the cough and the excessive flatulence, no unpleasant symptoms occurred. To control the former, the elixir opii was given, sudden contractions of the abdominal muscles, especially when already much distended, being attended with risk. To avoid all motion as far as possible, the catheter was also used until the seventh day after the operation. Therefore, also, the first enema (and the oil) was delayed until the eighth day.

II. I suppose the tympanites was the result mainly of the weakness of the alimentary canal, from the removal of the pressure of the fluid previously in contact with it. Without the assistance of the rectal tube I should have been at a loss how to relieve it. The cough was attributed to a sudden change in the temperature of the patient's apartment. It was perfectly controlled by the elixir opii.

III. The thirst I attributed principally to the hemorrhage (thirty ounces); but it has always followed this operation, with me, to some extent, for a day or two, as the sudden loss of a large quantity of fluid might lead us to expect.

IV. The discharge simulating the catamenial, which appeared thirty-six hours after the operation, and continued four days and a half, I should regard as merely a uterine hemorrhage, resulting from the congestion consequent upon the change of circulation produced by the ligation of the pedicle. A similar discharge of blood commenced seventy-two hours after my first operation of this kind, and continued three days.[1] I however regard this as a very favourable occurrence, and almost a safeguard against metritis or peritonitis.

V. I have also regarded a free secretion of urine after this operation as a very favourable sign. The quantity secreted in each of the preceding cases, during the first six days, is shown by the following figures. The total is very nearly the same in both; the amount passed involuntarily on the fourth

[1] See this journal, April, 1851, p. 385.

day in the first case, being supposed to equal that evacuated voluntarily on the sixth day in the second.

	1st case.	2d case.
1st twenty-four hours.	10 oz.	10 oz.
2d " "	13	14½
3d " "	12	15
4th " "	6½ and invol.	17
5th " "	15½	16
6th " "	21½	7 and vol.
	78½	79½

VI. The needles and sutures were left in this case as long as admissible after they were loosened by ulceration, from an apprehension that the cough or the tympanites might return after the seventh day.

VII. Of the eight ligatures, seven came away still *looped*, and one was *untied*.

VIII. I would still insist on the importance of the *artificial serum* in aid of this operation. With it, I should not hesitate to keep the cavity of the peritoneum exposed to view for any required length of time.

No. 30 Clinton Place, New York.

Art. XI.—*A Homely Substitute for Cod-Liver Oil.* By Richard McSherry, of Baltimore.

It will probably long be an open question with the medical world whether cod-liver oil has specific virtues, or whether other oils or fats may be substituted for it as remedial agents. M. Berthé, from some experiments upon a healthy subject, was led to the inference that different oils had different degrees of assimilation, and according to his experiments, the pure, brown, cod-liver oil is of all the most assimilable. He proposed a division of the fatty substances into three groups: 1. Substances of difficult assimilation, as olive and almond oils, &c. 2. Assimilable substances, as butter, whale oil, English cod-liver oil, and probably all animal fats; and, 3. Very assimilable substances; brown and pure cod-liver oil, being the sole representative of this group.

This arrangement is, perhaps, well founded; at present, I only wish to refer to one article in the second group, that is, to *animal fats.* Since cod-liver oil came into general use for phthisis, and almost every other form of prolonged ill-health, with emaciation, or waste, physicians generally have recommended fat meats to aid, as an article of diet, in the process of restitution and repair, yet perhaps few thought of giving them a place among the articles of the materia medica.

The readers of this journal have read in the daily papers of dogs being killed, as some said, for sausage meat, but, as the slayers contended, to obtain their fat for remedial purposes. The last was, doubtless, the true object, as I learned not long since by accident. Some four or five years ago, I was called to see a German cobbler, apparently far gone in consumption. The cough, expectoration, emaciation, night-sweats, and extreme debility, concurred with the physical signs, so that there could be no reasonable doubt as to his true condition. I satisfied myself that there were cavities in his lungs, told his friends that he would not be with them long, advised him to go for his own comfort to the Baltimore Infirmary, and to begin, at once, to take cod-liver oil. After this, I thought no more of him, nor of his case. About a year ago, however, I was visiting a sick girl, when her mother observed, that, as she was about to be married, it was desirable she should be relieved as soon as possible. The mother went on to remark, that the girl was going to marry a man whom I had given up some years before to die of consumption.

At first I could not recall the case, but she reminded me of several particulars, and of my sending him to the Infirmary, where the attending physician confirmed my diagnosis; that is, he told the friends that the man would not live over a few weeks. He soon left there, however, to take care of himself. "And what do you think cured him?" said the mother. I replied that I did not know, unless it was the cod-liver oil. "No," she said; "that did him good, and it was the first thing that did, but he gave it up and was cured by *dog-fat.*" In fact, by the advice of some of his friends he had taken to this uninviting remedy, and considered himself cured. I saw nothing of him until a few weeks ago, when he called upon me to attend his wife in her *accouchement.* He looked pale and thin, but said he was "strong as a horse," had a good appetite, and was supporting his family by his daily labour. He had no cough, and no expectoration. I made some examination of his chest; found percussion sounds flat, or very dull upon the superior regions of the chest anteriorly and posteriorly; respiratory sounds very feeble except upon forced inspiration, and then, subcrepitation and rudeness about the right scapula. Just under the centre of the scapula, there was a peculiar wheezy sound something like what a boy makes through a green rye straw when cut as a reed instrument; and there, doubtless, was a cavity with cicatrized walls. From the impulse of the heart throughout that region, with other evidences, there could be no doubt of considerable condensation of the tissue of the lungs.

I mentioned this case to intelligent persons, both in and out of the profession; several of whom told me they had known of similar cases; all being among the humbler classes of our German population. I am not prepared to say that dog-fat has any virtues superior to other animal fats; I merely state the fact, that though an inelegant remedy, it appears to be with certain classes both popular and successful. I must not omit to state, however, that my quandam patient used freely such *juvantia* as infusions of juniper berries, turpentine, mistletoe of the oak, and perhaps others.

ART. XII.—*Case of Poisoning by Gases of a Privy Sink, and Recovery.* By Dr. S. J. RADCLIFF, of Baltimore, Md.

I WAS awakened June 22d, at a quarter to four o'clock A. M., by night watch, and requested to hasten to see a man who had fallen in a privy sink. I went with all possible dispatch, and found that the man had been extricated from his perilous position, and was in a sitting posture on the ground. I learned that he (a strong, athletic German, employed in the night business), with two others, was engaged to cleanse the sink, which was eighty feet deep, and that they had already, by apparatus from the top, drawn out six large cart loads, a load being about one hundred and seventy-five gallons. He now attempted to descend into the sink to complete the work, its contents being only about two feet and a half deep, but he was overcome by the noxious gases, and precipitated to the bottom; this happened at about one and a half o'clock A. M., according to the account of the bystanders. Every means was used to extricate him by his fellow workmen and the watch, but seemingly to no purpose. They kept him alive apparently by continued douches of cold water, until, finally, when he had been down *about two hours*, from the best information I could obtain, finding he was too much exhausted to grasp a rope, and life was almost extinct, a ladder of sufficient length was procured, and, at the risk of their own lives, several of the men descended a considerable depth and succeeded in rescuing him; he was speechless, and muscular debility and insensibility were considerable, and there was little hopes entertained of his recovery. When I saw him, some ten or fifteen minutes after he had been taken out, he was much asphyxiated and depressed, respiration hurried and difficult; pulse soft and feeble; skin cold and shrivelled, and his whole frame agitated as if by the cold stage of an intermittent. This was doubtless caused, however, by his having to remain so long in the cold, semi-fluid mass, with the addition of the cold showers from above. I also found several contusions about his face and right arm, which he received by being dragged against the rough sides of the sink. The fresh air revived him, and I had him conveyed to his residence, some distance off, partly on a ladder, but most of the way on a spring wagon. The agitation of the vehicle, and the fresher air of the more open part of the city, revived him still more; so much so, that when he arrived at his home, he was able to walk with the assistance of one on each side of him, up to his chamber. I directed the whole upper part of the house to be opened, that he might have the benefit of the fresh morning breeze, the removal of his clothing, and his entire person to be cleansed immediately. After abundant ablutions of water, and subsequent drying, friction to the whole surface was instituted, and an occasional stimulant administered internally. When he had recovered sufficiently, I directed him to be put to bed, and to be covered with an adequate amount of clothing to insure warmth, and consequently reaction. As he had some nausea of the stomach, I administered a warm mustard emetic, which relieved him. I left him at 5 o'clock A. M., much recovered and

disposed to sleep. At 8 o'clock A. M., saw the patient again. Reaction had taken place, though moderately; the heat of the surface and the beat of the heart were but little above normal, and after removing the superabundance of bed-clothing, the feverishness, of which he slightly complained, partially subsided. He complained of no giddiness or headache, but still felt much nauseated, and thought he could taste or smell nothing but the disgusting effluvia, so completely were the nares, fauces, and even lungs saturated with it. Respiration was becoming easier and freer, and the general symptoms much abated. His face was very sensitive, and his right upper arm, which had been broken some six months before, and either badly set or badly treated subsequently by his former physician, also pained him very much. His forearm was permanently pronated, and his elbow-joint fixed, the lower arm forming an obtuse angle with the upper arm, and in dragging him along the sides of the sink it received some slight injuries, probably from stretching of the fixed ligaments. Fearing the supervention of typhoid symptoms, which are very usual in such cases of poisoning, and the indications not being pressing, I deferred venesection, ordered a brisk cathartic, the house to be kept opened, and a constant circulation of air through his apartments, his contusions to be bathed in cold water, etc. 23d. Saw the patient again. He was decidedly improved. No untoward symptoms were manifest, and he complained of nothing but the bruises about his face and arm. His system was nearly purged of all effects of the sulph. hydric acid or other gases, although his expirations were offensive, his mouth tainted, and his stomach was still slightly nauseated. He had no headache or giddiness, however; his pulse was natural, and other symptoms much abated. From this time he mended rapidly, and soon became convalescent. I regret I had no opportunity to apply a test.

Remarks.—The chief point of interest in the above case is the length of time the patient remained in the deleterious air, without meeting with death. The gases could not have been different from those of other privy sinks, and it is well known that an atmosphere impregnated with a very small quantity of the resulting gases—sulph. hydric being the principal—of night soil decomposition, is sufficient to kill a man. The depth of the sink and of the contained mass, and re-exposure of portions of it to the atmosphere, and external causes of decomposition, would preclude the least possibility of the purity or non-effectiveness of the contained air. The only counteracting influence employed was the cold douche, but this was not sufficient to obviate the direct application of the poison to parts whose retarded function would cause death. Life was sustained for nearly or quite two hours, in direct opposition to this view of immediate poison. If suspended animation would be a better term as more expressive of the real condition of the patient, it must have been the result of the poison, and if poison, what retarded its operation? Why is not the poison uniform in its operation?

I make no further comments on the above, but submit it as it is to the profession for their consideration.

TRANSACTIONS OF SOCIETIES.

ART. XIII.—*Summary of the Transactions of the College of Physicians of Philadelphia.*

1858, *June* 2. *Some Facts in Relation to the Nocturnal Incontinence of Urine in Children.* Dr. ADDINELL HEWSON read the following paper:—

There is perhaps no subject which practitioners deem less worthy of their attention, than that of the nocturnal incontinence of urine amongst children. By many this is considered a very trifling affection—by others as no disease whatever; and yet I am disposed to believe that there are but a few who have not been more than once baffled in their attempts to relieve it; still, a very few have ever deemed the subject worthy of close investigation, or careful study; and the majority of those who have written in relation to it have merely indulged in vague generalizations, from recollection only of what they have seen. In this way, various, and often diametrically opposite views, have been broached in regard to its nature, and a great diversity and multiplicity of remedies have been vaunted for its cure.

But these circumstances have only served to convey to my mind the conviction that there is yet much to be learned on the subject. I shall, therefore, with the view of adding something at least to our present stock of knowledge on this matter, proceed to lay before the College some facts in regard to it, which I have had the opportunity of observing, under circumstances peculiarly favourable to their thorough investigation.

In the early part of the past year (1857) I was requested by some of the managers of the House of Refuge to suggest a cure for those of the children in that institution, who were in the frequent practice of wetting the bed; on an investigation, instituted through the watchman and nurse, who furnished me with a daily record of the offenders, I ascertained that there were seventy-eight boys in the institution at that time (the latter part of January), affected with this form of enuresis. This, in a household averaging two hundred and ninety-two boys, gave an alarming proportion of cases, viz., 1 to $3\frac{75}{100}$, and invested the subject with much more importance in my mind than it had ever possessed before. I therefore determined to investigate it. For this purpose, I subjected each case to a most careful examination, and made inquiry into every moral and physical occurrence—into every hygienic and police regulation—into the diet, habits, occupations, and other circum-

stances which might affect these cases, either individually or collectively. The facts thus obtained were carefully recorded by me at the time, and the chief substance of them will be found in this paper.

I shall however confine myself to the consideration of sixty-three of the seventy-eight cases, as the others, fifteen, were only a short time under observation, having been discharged from the institution in the early part of the year. The cases from which my remarks will be drawn, were under my constant observation and control for a period of five months. Tables I. and II. contain abstracts of the histories of these cases. These cases (sixty-three) were very unevenly distributed in the two departments, for there were twenty-nine on the white side, and thirty-four on the coloured side of the house. But, as there was more than twice the number of white to coloured boys in the institution—the ratio for the blacks was far greater than appears above. Thus, of the whole number of boys, two hundred and ninety-two, two hundred and one were white boys, and only ninety-one were black. This would give a ratio of the diseased of 1 in 7 for the white, and 1 in 2.7 for the black. Thus, it would appear that the disease was more than twice as prevalent amongst the black as amongst the whites.

The most obstinate and inveterate case was amongst the blacks.

The average age of the whole number was twelve and one-third years, or in absolute figures twelve years four months and seventeen days.

For the white boys the average age was thirteen years; for the blacks twelve and two-thirds years, or in absolute figures, twelve years eight months and fifteen days.

The youngest affected with the disease was seven years old; the oldest eighteen.

The greatest number affected at any one age was nine, this was at the age of fourteen.

The greatest number affected at any age amongst the coloured boys was seven, at the age of fourteen. The greatest number amongst the white, at any one age, was five. This number occurred at the two ages of eleven and sixteen. The worst case (Cope) was eleven years old. But of the six worst cases out of the sixty-three, three were above eleven years of age, and two below.

The following is a table of the numbers affected at different ages:—

	White.	Black.	Total.		White.	Black.	Total.
7 years old,	1	...	1	14 years old.	2	7	9
8 "	1	3	4	15 "	3	2	5
9 "	1	2	3	16 "	5	3	8
10 "	1	4	5	17 "	1	...	1
11 "	5	2	7	18 "	1	1	2
12 "	4	4	8	Unknown (young)	1	2	3
13 "	3	4	7		29	34	63

The general appearance of health was good in thirty-four of the whole number; these were nineteen whites, and twenty-five blacks, and were all stout hearty boys.

Seven boys were markedly strumous. Of these seven, four were whites and three blacks.

Fifteen were thin and pallid.

Four of the (six) worst cases were stout and hearty. The worst case of all (Cope), was a remarkably stout, hearty looking boy.

The appetite was excellent in fifty-three; thirty of these were blacks, and twenty-three whites.

It was poor in ten, six whites, and four blacks; and of these ten cases, seven suffered with seat-worms; four had furred tongues, two had diarrhœa, and three suffered with constipation.

Twenty-four of the sixty-three had seat-worms (oxyuris vermicularis) making more than one-third of the whole number the subjects of this intestinal irritation. Five of the six most inveterate cases suffered from this trouble. The sixth (Galbraith) suffered from spongy gums. Seven of the white boys were suffering with ringworm (herpes circinatus), and one had the itch (scabies).

Twenty-seven of the cases had clean healthy tongues. Thirteen of these were white boys, and fourteen coloured.

Nineteen had pale, putty looking tongues. Of these eight were white, and eleven coloured.

In seventeen the tongue was coated, viz., eight white, and nine blacks.

Twenty-six had but one alvine dejection per diem. Thirteen of these were white, and thirteen blacks. Sixteen had more than one (from 2 to 4) per diem, viz., eight whites, and eight blacks.

One boy (coloured), had no control whatever over his sphincter ani.

Twenty, eight white and twelve blacks, suffered from constipation. Three of the six worst cases suffered from constipation. Cope, the worst case of all, was regular in his bowels.

Twenty-seven of the cases urinated two or three times in the day, besides emptying the bladder in the morning on rising, and in the evening on going to bed. Eighteen of these were coloured, and nine white.

Twenty-eight, sixteen whites and twelve blacks, were obliged to urinate more frequently during the day.

Three could give no satisfactory account of how often they had to go out to urinate. Four, including the coloured boy who could not retain the contents of the rectum, had no control over the bladder, and wet their clothes during the day; one of these was idiotic.

The urine was of normal colour in	46
" " very pale "	17
	63

It was acid in every one of the sixty-three cases. In four (all white boys), it was very much so, and in seventeen it was only slightly so.

The average specific gravity was 1018. Amongst the whites the average sp. gr. was 1016; amongst the blacks, 1020.

Lowest specific gravity observed was 1010 (in the urine of a coloured boy). The highest 1027 (also in a coloured boy).

The greatest number of any one specific gravity was sixteen. In these it was 1020. The range of the specific gravity for all the cases was as follows:—

Sp. gr.	White.	Black.	Total.	Sp. gr.	White.	Black.	Total.
1010	3	1	4	1021	...	3	3
1012	5	...	5	1022	1	...	1
1013	1	...	1	1023	...	2	2
1015	6	1	7	1024	...	2	2
1016	...	2	2	1025	1	1	2
1017	2	1	3	1026	...	1	1
1018	1	3	4	1027	...	2	2
1019	...	5	5	Not observed	1	2	3
1020	8	8	16		29	34	63

Uric acid was deposited in		31 specimens.
Urate of ammonia[1]	"	8 "
Urate of soda	"	1 "
Ammonio phosp. mag.	"	1 "
		41
There was no deposit in		22

Twenty-one of the specimens which yielded uric acid sediment were furnished by the white boys; ten by the black. Six of those which yielded urate of ammonia were obtained from the coloured boys, and in only two specimens from the white boys was urate of ammonia found in excess. The single case of urate of soda was a coloured boy. The ammonio-phosphate of magnesia was found in the urine of a white boy. Of the twenty-two cases in which there was no deposit on cooling, seventeen were black boys, and five white.

I would state in reference to these investigations of the urine, that they were all made by myself, with the assistance of my friends Dr. G. C. Harlan, at the time the Resident of Wills' Hospital, and Dr. John Brook, of Reading, then my private pupil. The number of specimens was too great to admit of the possibility of more than a clinical examination of each one. The urine examined was voided in the morning, in my presence. Its specific gravity and chemical reaction were immediately noted, and, as soon as I could reach home with the specimens, I subjected each to a careful mi-

[1] The deposit so called by Golding Bird, but which Lehmann declares to be urate of soda.

croscopic examination, and made also some rough attempt to determine—by chemical agents—the character of the solid constituents. It was especially necessary that these examinations should be made rapidly, in order to determine, with anything like accuracy, the presence of free uric acid, as it is well known that this acid is often set free by decomposition of its salt, within a short time after the urine has been voided.

I esteemed accuracy, in this respect, of greater importance than a more minute detail of a few of the specimens; for it would have been impossible to have made a detailed analysis of all the specimens voided at the same time; and, to have examined the cases all separately, and at different times, might have led to some error.

The prepuce and penis were discoloured, and the former much elongated as either from frequent pulling, to relieve the itching of cystic irritation, or as from masturbation in no less than forty-six cases.

	White.	Black.
These were	21	25
The organ appeared natural in twelve	6	6
" " unusually small in two	...	2
" " very large in three	2	1
	29	34

As regards the vice of masturbation, eighteen, twelve white boys and six black, confessed to being guilty. In twelve other boys, five whites and seven blacks, there was no suspicion of guilt in this; but in the remaining thirty-three, namely, twelve whites and twenty-one blacks, there was every reason to suspect them; their manner of denying the accusation, and the appearance of the genitals, tended to fix these suspicions on them.

As to the frequency with which the enuresis occurred there were only two who were guilty of it every night without intermission, these would even wet the bed more than once in a single night. Three, all whites, were found to do it six or seven times in the week, with considerable regularity. Seven, three white and four coloured, five or six times; six, three, from either colour, four or five times; six, one white and five coloured, three or four times; twelve (six of each), two or three times; ten (six white and four blacks), once or twice; twelve (five white and seven blacks), only once a week, and three, not as often as once a week. For Wednesday and Saturday night—and especially for the latter—there was always a greater number reported than for any other night of the week; and there was always a fewer number for Sunday night.

These singular facts were merely demonstrative, however, of the influence of diet on the disease, for on Wednesday and Saturday the inmates of the the coloured department had salt pork or fish and hominy for dinner, the white boys had the same, only on Saturday; and fresh beef (boiled), soup, potatoes, rice, cabbage, and bread, on the other days; and for the evening

meal, they had mush and molasses regularly every evening, except Saturday and Sunday evening. On the former of these occasions, they had, instead of the mush and molasses, soup, obtained in the preparation of Sunday's dinner; and on the latter (Sunday evening), they got bread and molasses. The late rising on Sunday morning, which prevails in the institution, might also have contributed to swell the list of Saturday night.

Atmospheric vicissitudes seemed also to exert an influence on the disease. Thus, a sudden fall in the thermometer, or barometer, during the night—either together or separately—always appeared to increase the number of cases. A decrease of temperature seemed especially to produce this effect. I have attempted to represent the influence of these changes in Table III. The apparent exceptions to the statement I have just made, which are noticeable in this table, can be satisfactorily explained in every instance. Thus, many of the exceptions will be found occurring on Wednesday, Saturday, and Sunday nights; but a reason has been already given for the increase of cases on the first and second of these occasions, and for their decrease on the last, which may overbalance the influences of the atmospheric vicissitudes. Thus, it will be observed on the night of the 8th of February, the number of cases decreased, although there was a great fall in the thermometer during that night; but this was Sunday night—the night of all others in which the fewest cases occurred, owing to its being the only night on which they got a dry supper. But even in the majority of these nights (Wednesday, Saturday, and Sunday), where sudden changes have occurred, the influence of such changes has been manifest, although not so much as it was on other occasions. Thus, on the night of Sunday, the 22d of February, the number of cases was increased rather than decreased, as it should have been from the dry supper of that night; but on that night the barometer fell, and thus this instance is proved to be no exception to the rule.

The occurrences of this night, however, furnish another explanation for some of the apparent discrepancies in this table. My only way of representing the thermometrical and barometrical changes between the different days was to give the mean range of each day. These changes may therefore be said to be only representable in an approximate sense. The mean range of the day has thus in some instances indicated an exception to my statement, which in reality had no existence. Thus, in the instance to which I have just been referring, the thermometer rose only 6° during the day of the 22d (Sunday), fell through the night, and was down to 35° in the morning of the 23d. During the 23d it rose so high as really to make the mean of that day much above that of the day previous. Here, then, the table represents the thermometer as rising between the two days, whereas it in reality fell during the intervening night. This fact, it might be thought by some, should destroy all inferences drawn from this table. But this table was merely made to indicate on a glance facts which were observed at the time of their occurrence. It may therefore be said to furnish but an approximation to the

truth. If it, however, under such circumstances, justifies the statement I have made—that the number of cases was always increased by a sudden and decided fall in the thermometer and barometer—how much more accurate must that statement in reality be? I could furnish the records of each day for the whole period of five months, and demonstrate, beyond all cavil, the truth of what I have said; but the recital of such dry details would prove neither interesting nor instructive. I have perhaps already dwelt too much on this point; but as I have found fault with others for merely stating vague inferences of what they have seen, it is especially incumbent on me to avoid exposing myself to similar censure. The fact of such sudden changes influencing this disease, may be thought by some never to have required demonstration.

A reference to this table has suggested to my mind another circumstance which should be mentioned. It will be observed that the number of cases steadily and rapidly increased between the 12th and 16th of March. This increase took place in defiance of the weather, and was, at the time, the source of some perplexity to my mind. In the early part of the week previous, I had ordered all the cases to abstain from drinking anything at the evening meal. This had had an appreciable influence on the number of cases reported during that period; but it was not a mode of treatment altogether agreeable to the patients; some of them, therefore, on the evening of the 12th, slipped off and took a good drink at the hydrant, just before going to bed. The success of their stratagem was such as to induce others to follow their example. The number of visitors to the hydrant increased each night, and their fear of detection became less and less, until, on the night of the 16th, they were caught at their libations. The rigid enforcement of my directions showed itself on the 17th; for on the night of that day the number fell off ten.

On the five nights following that of the 17th of March, this table shows still another digression from what I have stated as occurring so uniformly. During these five nights, the number of cases appears to have been small, although considerable change took place in both the thermometer and barometer. The cases in this portion of the table are, however, only from the coloured department, for, during these five days, the watchman was ill, and unable to report the cases in the white department.

Some influence may perhaps be attributable to the occupations of these boys, in the production of the disease; and the difference of occupation in the two departments may serve to explain the greater frequency of free uric acid amongst the white, and its occurrence in combination with the blacks.

The white boys over 12 years were engaged in the light work of making match-boxes, daguerreotype cases, and brushes. The black boys over 12, in driving heavy machinery for making umbrella frames, which required great consumption of muscular strength.

The departments of the whites are heated by steam; those of the blacks by hot air furnaces. The white boys have more playground, and there is a better circulation of air through their part of the inclosure.

The diet of the house consists of coffee, diluted with milk, and sweetened with molasses, and of dry bread for breakfast. The bread is a mixture of Indian, rye, and wheat, well fermented, and sweet.

For dinner they get soup made with beef, cut in large pieces, which is afterwards served to them as meat, with potatoes and turnips, or hominy, rice, or beans. This constitutes the midday meal every day, except on Wednesday and Saturday, in the colored department, and on Saturday in the white side, when codfish or salt pork is served instead of the beef.

For supper they have Indian mush and molasses every day, except on Saturday and Sunday, as before specified. The meals are all devoured with the rapidity usual to children in public institutions.

In the treatment of these cases, I made trial of a number of the remedies which have been recommended for the cure of this disease, with very variable success. In the first instance I, however, put all the cases on the use of the bromide of potassium in 2½ and 3 gr. doses, thrice daily, according as they were above or below 12 years of age. I do not know of this article ever having been employed, before or since that time, for this purpose. I used it solely for the anaphrodisiac effect which I had seen it exert in cases of seminal emissions and masturbation, and thinking that much of the incontinence of urine was due to irritation consequent on masturbation, of which so many of the cases furnished strong evidence of being guilty, I determined to give it a trial.

In nine of the sixty-three it effected a complete cure. Not one of these nine cases wet the bed after the first week of its administration. One of these cases was quite a bad one of the disease; but what was singular, I had no reason to suspect him of masturbation. There were also two others in which there was no reason to suspect this vice. In the rest, there was reason for the suspicion, and two of them confessed to being guilty of it.

There were four cases materially benefited by this remedy, although not entirely relieved. Two of these confessed to being masturbators, and one was suspected of the vice.

In the rest of the cases (namely, 50), it seemed to exert no beneficial effect whatever, although its use was faithfully persevered in for two weeks; and in the cases in which masturbation was most strongly suspected, the tinct. of lupuline was combined with it, without any benefit being effected. I should state, also, that the cold douche on the back, loins, and belly, was employed in all the cases whilst the bromide of potassium was being used. But as the douche had been previously employed without any appreciable improvement whatever in the disease, the success above stated, I think, may be justly attributed to the bromide of potassium.

In the cases (54) which were not cured by this remedy, I next employed the tincture of the chloride of iron in five and three drop doses, thrice daily, and doubled the dose at the end of the first week of its use. I gave this a fair trial of more than six weeks, and combined with it the cold douche at

bedtime, and a dry supper of bread only. The number of cases at the end of these six weeks was, however, as great as when I began the use of the iron.

I then tried the treatment by cantharides, and gave all the white boys the tincture of cantharides in five drop doses, repeated three times each day, from the 22d of April to the 11th of May, and during this same period I applied a series of blisters by the cantharidal collodion over the sacrum and pubes of each of the coloured boys. But, at the end of that time—two weeks—I could not point out a single case which had been in any way benefited, although strangury was effected in the majority of them.

Finally, in the second week of May, I established what I considered a more rational plan of treatment. I ordered for each boy suffering with constipation, a dose of magnesia; for those who were affected with worms, turpentine ʒj, with bicarb. of soda, gr. v, three times a day. And I put them all on the belladonna, giving them five drops of Squire's juice, prepared by Bently's process.

I also ordered that they should all have a dry supper of bread alone, as had been previously recommended, and the cold douche. Each boy was made to rise and urinate an hour after retiring for the night. Under this plan, the number of cases diminished with really astonishing rapidity. During two nights, at the end of the first week of its adoption, there was not a single case reported in the whole institution. Such a thing had not occurred before during the whole time they were under my observation.

At the end of May—two weeks after placing them under this treatment—only four cases, besides those who wet their clothes during the day, were reported, and these were somehow suspected of deliberately wetting the bed for the sake of being continued on bread for supper, which they preferred to the mush. I therefore ordered that all the cases which had been under treatment, should have only a small allowance of bread, so as to go to bed hungry. From that time there was not another case, besides those which suffered with daily incontinence, reported to me. And at the end of June, when my term of service expired, the cases had all been without treatment for two weeks, and there was no recurrence of the disease in any of those affected with the nocturnal incontinence alone. I had never expected to cure those who were unable to control their bladders during the day by any of the remedies above enumerated, and only treated them as I did for the purpose of demonstrating the effects of such remedies in this form of the disease. As it was, however, all these cases were benefited by the belladonna and turpentine, where there existed the association of oxyuris vermicularis with the enuresis. Another of these cases had spongy gums and stomatitis, and took with benefit the chlorate of potassa. The other case was idiotic, and on him the belladonna manifested less benefit than on any of the others.

TABLE I.—*Abstract of the Cases of Enuresis occurring*

No.	Name.	Age.	General appearance.	CONDITION OF DIGESTIVE ORGANS.			CONDITION OF URINE.			
				Appetite.	Tongue	Evacuations.	Frequency per diem.	Color.	Sp. gr.	Chemical reaction, sediment, &c.
1	Koehler	17	Stout and hearty	Good	Natural	1 per diem	3 or 4 times	Natural	1010	Slightly acid; no sediment
2	J. McGuire	7	Short and thin	Capricious	Coated	1 per diem	3 or 4 times	Natural amber	1020	Very acid; ur. ac. and ur. amm.
3	T. McGuire	12	Thin & pale	Good	Natural	Not regular	4 or 5 times	Natural amber	1025	Very acid; urate of ammonia
4	Root	..	Short & very hearty	Good	Slight fur	3 per diem	4 times	Natural amber	1020	Acid; no sediment
5	Alex. Gibbs	12	Fair and thin	Variable	Pale	Not regular	3 or 4 times	Natural amber	1020	Acid; no sediment
6	And. Gibbs	8	Pale & thin	Variable	Pale	Not regular	2 or 3 times	Natural	1020	Acid; uric acid sediment
7	Haley	16	Pale & thin	Variable	Slight fur	Not regular	2 or 3 times	Pale	1010	Acid; uric acid
8	Galbraith	15	Short and stout	Good	Pale	Not regular	Wets his clothes	Amber	1015	Acid; uric acid, large crystals
9	Morris	9	Small, thin, and pale	Good	Coated	3 per diem	3 or 4 times	Pale	1012	Acid; uric acid, large crystals
10	Farns	15	Small and feeble	Good	Natural	1 per diem	3 or 4 times	Natural	1020	Acid; uric acid
11	C. Bloomer	13	Thin and shy	Variable	Natural	Not regular	3 or 4 times	Natural	1015	Acid; uric acid and urate of ammo.
12	W. Bloomer	12	Thin but healthy	Good	Natural	1 per diem	3 or 4 times	Natural	1017	Acid; (slightly) uric acid
13	Hartz	16	Large, hearty	Good	Coated	1 per diem	2 or 3 times	Pale	1015	Acid; no sediment
14	Walker	11	Thick set and hearty	Good	Pale	1 per diem	3 or 4 times	Natural	1020	Acid; uric acid
15	Dolin	14	Pale	Good	Natural	1 per diem	3 times	Bright amber	1020	Acid; uric acid small quantity
16	Nesson	14	Healthy	Good	Pale putty	Not regular	2 or 3 times	Pale	1015	Acid; uric acid lozenges
17	Cook	11	Thin	Good	Pale	2 per diem	2 or 3 times	Light amber	1020	Acid; uric acid
18	Falkner	13	Healthy	Good	Coated	Not regular	Every 3 hours	Pale	1012	Acid; ammonia, phos. of mag.
19	Osborne	16	Stout, healthy	Good	Natural	1 per diem	3 or 4 times	Pale	1010	Acid; uric acid
20	Bennett	16	Strumous	Good	Coated	1 per diem	3 or 4 times	Pale	..	No sediment
21	Baker	16	Tall, strumous	Good	Putty	2 per diem	3 or 4 times	Amber	1015	Acid; no sediment
22	Fullerton	11	Thin (red hair)	Good	Natural	1 a week	2 or 3 times	Pale	1018	Acid; uric acid slight
23	Young	12	Healthy	Good	Pale	2 per diem	3 or 4 times	Amber	1012	Very acid; uric acid
24	Price	15	Healthy	Good	Natural	1 or 2 per diem	2 or 3 times	Pale	1012	Very acid; uric acid
25	Johnston	13	Strumous	Good	Natural	1 or 2 per diem	3 or 4 times	Pale	1015	Acid; uric acid
26	McCann	11	Thin	Good	Slight fur	1 per diem	3 or 4 times	Natural	1017	Acid; uric acid
27	Shannon	10	Healthy	Good	Natural	Not regular	3 or 4 times	Natural	1022	Acid; uric acid
28	Porr	18	Pale, thin (idiotic)	Variable	Natural red	2 per diem	Wets his clothes	Pale	1012	Acid; urate of ammonia
29	Callender	11	Strumous	Good	Natural	1 per diem	3 or 4 times	Natural	1013	Acid; uric acid

in the White Department of the House of Refuge.

Special disease.	Frequency of habit.	Appearance of genitalia.	Secret vice.	Remarks.
No ascarides or other dis.	4 or 5 times a week	Natural	None	Cured by bromide of potassium.
Has ascarides	6 or 7 times a week	Natural	None	Cured by belladonna, turpentine, and soda.
No ascarides or other dis.	6 or 7 times a week	Prepuce elongated and red	Denies any	Cured by belladonna and magnesia.
Has ascarides	6 or 7 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna, turpentine, and soda.
No ascarides or other dis.	3 or 4 times a week	Natural	None	Cured by belladonna.
No ascarides or other dis.	4 or 5 times a week	Natural	None	Cured by belladonna and magnesia.
No ascarides or other dis.	5 or 6 times a week	Prepuce and penis elongated	Confesses	Benefited by bromide of potassium.
No ascarides: spongy gums	6 or 7 times a week	Prepuce and penis elongated	Confesses	Benefited by belladonna.
Has ascarides	5 or 6 times a week	Natural	None	Cured by bromide of potassium.
Has ascarides	Once a week	Prepuce and penis elongated	Confesses	Benefited by bromide of potassium.
No ascarides	Once a week	Prepuce and penis elongated	Denies any	Benefited by bromide of potassium.
No ascarides	Once a week	Natural	Denies any	Benefited by bromide of potassium.
No ascarides	1 or 2 times a week	Prepuce and penis very large	Denies any	Cured by belladonna and magnesia.
No ascarides	4 or 5 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna.
No ascarides	5 or 6 times a week	Penis large; has a rupture	Denies any	Cured by belladonna.
Has herpes circinatus	2 or 3 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna and magnesia.
No ascarides	2 or 3 times a week	Natural	Denies any	Cured by bromide of potassium.
Has ascarides	Once a week	Prepuce and penis elongated	Confesses	Cured by bromide of potassium.
No ascarides	2 or 3 times a week	Prepuce and penis elongated	Confesses	Cured by belladonna.
No ascarides	2 or 3 times a week	Prepuce and penis elongated	Confesses	Cured by belladonna.
Has herpes circinatus	2 or 3 times a week	Prepuce and penis elongated	Mast ev'ry night	Cured by belladonna and magnesia.
Has scabies, no ascarides	Once a week	Prepuce and penis elongated	Confesses	Cured by belladonna.
Has herpes circinatus	1 or 2 times a week	Prepuce and penis elongated	..	Cured by belladonna.
Has bad ascarides	1 or 2 times a week	Prepuce and penis reddened	Denies any	Cured by belladonna and turpentine.
Has herpes circinatus	1 or 2 times a week	Prepuce and penis elongated	Confesses	Cured by belladonna.
Has herpes circinatus	1 or 2 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna and magnesia.
Has herpes circinatus	2 or 3 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna and magnesia.
No ascarides	Day and night	Prepuce and penis elongated	Confesses	Benefited by belladonna.
Has herpes & ascarides	1 or 2 times a week	Prepuce and penis elongated	Confesses	Benefited by belladonna.

TABLE II.—*Abstract of the Cases of Enuresis occurring*

No.	Name.	Age.	General Appearance.	CONDITION OF DIGESTIVE ORGANS.			CONDITION OF URINE.			
				Appetite.	Tongue.	Evacuations.	Frequency per diem.	Color.	Sp. gr.	Chemical reaction, sediment, &c.
1	J. Cole	10	Thin mulatto	Good	Pale	Constipated	2 or 3 times	Light	..	Saccharine; no sediment
2	Morris	9	Stout, dark	Good	Pale	Not regular	3 or 4 times	Natural	1025	Acid; uric acid and urate of ammon.
3	Banks	12	Stout and healthy	Good	Natural	Constipated	2 or 3 times	Light amber	1024½	Acid; urate of ammonia
4	Robinson	12	Markedly strumous	Good	Slight fur	Not every day	3 or 4 times	Natural	1023	Acid; urid acid
5	Harris	13	Healthy	Good	Natural	Once a day	1 or 2 times	Natural	1019	Saccharine, acid; no sediment
6	Clark	9	Healthy	Good	Pale	Not regular	2 or 3 times	Natural	1020	Acid; no sediment
7	J. Brown	14	Healthy, large lips	Variable	Pale	Regular	2 or 3 times	Natural	1021	Acid; no sediment
8	Eates	16	Dark, stout, healthy	Good	Slight fur	Twice a day	Twice a day	Natural	1019	Acid; no sediment
9	Wallace	..	Stout mulatto	Not good	Pale	4 or 5 a day	2 or 3 times	Natural	1024	Acid; no sediment
10	Chris. Field	14	Large, stout	Variable	Pale	Twice a day	2 or 3 times	Natural	1018	Acid; no sediment
11	Cope	11	Short, stout, and hearty	Good	Pale	Once a day	Seldom	Light amber	1018	Acid; urate of ammonia
12	Thomas	12	Emaciated	Variable	Natural	Regular	3 or 4 times	Light	1017	Saccharine, acid; urate of ammon.
13	R. Johnson	8	Short, hearty	Variable	Slight fur	Twice a day & painful	Twice a day	Natural	1016	Acid; no sediment
14	Gilmore	10	Short and thin	Good	Pale	Twice a day	3 times	Natural	1019	Acid; uric acid
15	Js. Brown	14	Healthy	Good	Coated	Once a day	3 times	Natural	1021	Acid; uric acid
16	G. Hackett	10	Stout, healthy	Good	Pale	Once a day	Twice a day	Natural	1026	Acid; uric acid
17	Casey	14	Light, healthy	Good	Natural	Constipated	3 or 4 times	Natural	1027	Acid; uric acid
18	D. Palmer	14	Thin, dark	Good	Pale	Once or twice	2 or 3 times	Natural	..	Acid; uric acid
19	Samons	14	Healthy	Good	Natural	Constipated	2 or 3 times	Natural	1018	Acid; uric acid
20	C. Hardy	13	Light and thin	Good	Pale	Constipated	Once a day	Natural	1020	Saccharine; no sediment
21	Pitts	11	Large and healthy	Good	Natural	Constipated	Twice a day	Natural	1010	Acid; no sediment
22	Sam. Johnson	10	Short, hearty	Good	Natural	Regular	3 or 4 times	Natural	1016	Acid; uric acid
23	John Baily	16	Stout, hearty	Good	Natural	Regular	3 or 4 times	Natural	1027	Acid; no sediment
24	Francis Stevens	8	Short, hearty & straight-haired	Good	Natural	Regular	Wets himself during the day	Light	1020	Acid; no sediment
25	Bunce	14	Large and dark	Good	Natural	Constipated	2 or 3 times	Natural	1020	Acid; no sediment
26	Wm. Halgaman	10	Thin	Good	Natural	Twice a day	3 times	Natural	1023	Acid; no sediment
27	Riley	8	Stout, hearty	Good	Natural	2 or 3 a week	2 or 3 times	Natural	1020	Acid; urate of ammonia
28	Alexander	13	Light, stout	Good	Natural	3 times a day	Wets his clothes	Natural	1019	Acid; urate of soda
29	A. Lopeman	15	Healthy mulatto	Good	Natural	Twice a week	3 or 4 times	Natural	1020	Acid; uric acid
30	Jas. Bond	..	Dark, healthy	Good	Coated	Not regular	2 or 3 times	Natural	1021	Acid; no sediment
31	Shafer	18	Good	Good	Coated	Regular	3 or 4 times	Natural	1015	Acid; urate of ammonia
32	John Lea	15	Tall & healthy	Good	Coated	2 or 3 times a day	2 or 3 times	Natural	1020	Acid; uric acid
33	Jos. Oliver	12	Thin	Good	Coated	Regular	3 or 4 times	Natural	1019	Acid; no sediment
34	Walters	12	Stout, dark	Good	Coated	Regular	4 or 5 times	Natural	1020	Acid; no sediment

in the Colored Department of the House of Refuge.

Special disease.	Frequency of habit.	Appearance of genitalia.	Secret vice.	Remarks.
No ascarides or other dis.	2 or 3 times a week	Prepuce much elongated	Denies any	Cured by bromide of potassium
Has ascarides	4 or 5 times a week	Prepuce much elongated	Denies any	Cured by belladonna, magnesia, and turpentine.
Has passed lumbricoid	4 or 5 times a week	Prepuce much elongated	Denies any	Cured by belladonna, magnesia, and turpentine.
No ascarides or other dis.	1 or 2 times a week	Prepuce much elongated	Denies any	Cured by bromide of potassium.
No ascarides or other dis.	3 or 4 times a week	Prepuce much elongated	Denies any	Cured by belladonna.
No ascarides or other dis.	3 or 4 times a week	Prepuce much elongated	Denies any	Cured by belladonna and magnesia.
No ascarides or other dis.	5 or 6 times a week	Prepuce much elongated	Confesses	Cured by belladonna.
Has ascarides	5 or 6 times a week	Penis and prepuce elongated	Denies any	Cured by belladonna and turpentine
Has cough, diarrhœa, & ascarides	5 or 6 times a week	Penis and prepuce elongated.	Denies any	Cured by belladonna and turpentine.
Has ascarides	4 or 5 times a week	Small	Denies any	Cured by belladonna and turpentine.
Has ascarides	Every night	Prepuce and penis elongated	Strongly suspected	Cured by belladonna and turpentine.
Has ascarides	3 to 5 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna and turpentine.
Has ascarides	5 or 6 times a week	Prepuce and penis elongated	Confesses	Cured by belladonna, turpentine, and magnesia.
No ascarides	Once a week	Prepuce and penis elongated	Confesses	Cured by bromide of potassium.
No ascarides	Once a week	Prepuce and penis elongated	Denies any	Cured by belladonna.
No ascarides	Once a week	Prepuce and penis elongated	Denies any	Cured by belladonna.
Has ascarides	Once a week	Prepuce and penis elongated	Denies any	Cured by bromide of potassium.
Has ascarides	Once or twice a week	Prepuce and penis elongated	Masturbates	Cured by belladonna and turpentine.
Has ascarides	4 times a week	Prepuce and penis elongated	Masturbates	Cured by belladonna, turpentine, and magnesia.
No ascarides	Occasionally	Prepuce and penis elongated	Denies any	Cured by belladonna, turpentine, and magnesia.
Has ascarides	4 or 5 times	Natural	None	Cured by belladonna, turpentine. and magnesia.
No ascarides	2 or 3 times a week	Prepuce and penis elongated	Confesses	Cured by belladonna.
Has ascarides	Once a week	Natural	None	Cured by belladonna and turpentine.
Has ascarides	3 or 4 times a week	Prepuce and penis elongated	Denies any	Benefited by belladonna.
Has ascarides	3 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna, turpentine, and magnesia.
No ascarides	Once a week	Natural	None	Cured by belladonna.
No ascarides	Twice a week	Small	None	Cured by belladonna.
Has ascarides	Once a week	Prepuce much elongated	Denies any	Benefited by belladonna.
No ascarides	Twice a week	Natural	None	Cured by belladonna and magnesia.
No ascarides	Occasionally	Natural	None	Cured by belladonna and magnesia.
No ascarides	Occasionally	Natural	None	Cured by belladonna and magnesia.
No ascarides	Twice a week	Penis very large	Denies any	Cured by belladonna and magnesia.
Has ascarides	3 times a week	Prepuce and penis elongated	Denies any	Cured by belladonna and turpentine.
Has ascarides	3 times a week	Natural	None	Cured by belladonna and magnesia.

It will be remarked that the cases I have reported were confined exclusively to the male departments of the institution. No complaints were made to me at the time my attention was called to the disease amongst the boys, of its existence in the girls' department. This struck me at the time as somewhat singular, and I made inquiry on the subject, and, much to my surprise, I found that the disease was really confined to the boys, for there were but two out of the whole number of girls (about 80) in the house ever guilty of wetting the bed. These did it so seldom as not to be the source of annoyance or inconvenience. The average age of the girls was somewhat greater than that of the boys, and their general condition and health far better. I had very seldom occasion to prescribe for one of them, especially in the white department, during the whole six months. As a class, they were remarkably healthy, stout and ruddy. They performed the household duties, such as cooking, cleaning, washing, ironing, mending and making clothes for the whole house. They were occupied about five hours each day in school—had three hours for amusement, chiefly jumping of rope and swinging in the yard. They indulged in a great deal of singing at all times. They had the same diet as the boys. Morally they were no better than the boys—many of them, even of the youngest, had led dissolute lives. I had no way of determining with anything like an approximation to the truth the frequency or even the existence of masturbation amongst them. A vaginal examination in itself, if justified by my own conscience, or allowed by the Managers, would not have determined with accuracy the fact. I also made no examination of the urine in this department with the view of determining a cause of the difference between the two sex—my time was too much occupied for the purpose, with my investigations in the male department. My researches, therefore, as regards the influence of sex in this disease, were not as complete as might be desired, but they are at least in confirmation with the most generally expressed views, that the disease is most common amongst boys.

Dr. CONDIE said that the communication of Dr. Hewson was a most interesting one on a most interesting subject. Dr. Condie was pleased that so favourable an opportunity for the careful study of incontinency of urine, as it occurs in children, had been afforded the gentleman, and that he had been enabled so successfully to improve it. His communication exhibits the first attempt, so far as Dr. Condie was aware, to substitute facts for surmises, the results of close observation for mere hypothesis, in respect to the circumstances under which enuresis is met with in childhood, and the particular conditions of the patient with which it is associated.

Dr. Condie had been engaged for many years in an investigation of the same subject, but under circumstances far less favourable to the accuracy of the results than those which have occurred to Dr. Hewson. The cases observed by Dr. Condie were not placed under so close and careful observation as those of Dr. Hewson; for some of the most important particulars connected with them he had to depend upon the reports of parents, and often of ignorant

and unfaithful nurses. He was pleased to find, however, that the results of his investigations, imperfect as they were in accuracy, corresponded in their general features with those which might be drawn from the cases observed by Dr. Hewson.

Dr. Condie, contrary to what he had anticipated when he began the investigation, found that incontinence of urine was much more common in boys than in girls. So far as his observations went, the disease or infirmity, whichever it may be, was less frequent among children at home than among those congregated in public institutions, boarding-schools for young boys, etc. In some of the cases observed by Dr. Condie, the incontinence was experienced throughout the whole twenty-four hours; the children being unable to control for a moment the inclination to urinate when it occurred, during the day or at night, and in the majority of these patients the inclination was experienced at much shorter intervals than is usual in children. In the majority of cases, the incontinence was experienced only during the night, and when the patient slept, sometimes every night, at others only occasionally. Dr. Condie had found the disease more common among children badly brought up—who were neglected in both their hygienic and moral training. In some cases, nocturnal incontinence of urine would appear to be the result of a careless, lazy, filthy habit; in such it might be cured by a cautious disciplinary treatment; but in the majority of cases, the incontinence was the result of causes altogether beyond the control of either the parents or the children; it was, properly speaking, a disease.

In cases of nocturnal incontinence, Dr. Condie had found the most effectual remedy to be the belladonna. He had frequently combined it with one or other of the chalybeate preparations, having, in numerous cases, found the enuresis to be connected with a cachectic condition of the system, or with symptoms indicating an impoverished state of the blood. In those cases in which the incontinence occurs in the day as well as by night, he had employed the tincture and extract of nux vomica, and occasionally strychnine, and though he could not boast of any great success in the treatment of such cases, yet, from the remedies just mentioned, he was certain that he had derived more advantage than from any other, and he had tried a host.

On one point the observations of Dr. Condie led to a very different result from those of Dr. Hewson; he alluded to the condition of the urine in children affected with enuresis. In thirty-two cases in which the urine was submitted to a careful and accurate examination, the saline ingredients, particularly the urates, as well as uric acid, were found to be deficient; there was an excess of the watery portion. This was more strikingly the case in respect to the urine of such of the children as were troubled with incontinence of urine by day and by night. Dr. Condie was induced to undertake the examination of the urine in consequence of the statement of Prout that in enuresis the urine contains an excess of lithic acid and its compounds. Willis had already, however, shown that the urine of those labouring under

enuresis is of lower specific gravity than in health, colourless and watery, and deficient in the characteristic animal ingredients. Others have noticed the same fact, and, in the cases where the urine is more copious than in children generally, and the calls to pass it are at all times frequent, and uncontrollable for even an instant, they have described the affection as an infantile insipid diabetes.

Inability to Distinguish Colours.—Dr. HAYS stated that he had recently met with a case of inability to distinguish colours, a brief notice of which might interest the fellows of the College. The case was interesting in two points of view: *First*, as it belonged to a class of cases of which but very few had hitherto been recorded, viz., in which the inability did not exist as a congenital defect, but was the result of disease; and, *secondly*, because it confirmed the law, pointed out some years since by the speaker, as existing in regard to these cases.

He had shown, 1st, that this defect may exist to such a degree that shades only could be distinguished, the individual having no perception of colour.

2d. In the next degree, the patient can distinguish only a single colour, and this is always yellow.

3d. In the next degree, the individual can distinguish two colours, which are always yellow and blue.

4th. In the next degree, the patient can distinguish three colours, and these are always yellow, blue, and red.

This was exemplified in the case of Mary Bishop, the particulars of which were recorded in the *American Journal of Medical Sciences*, for Aug., 1840, and confirmed by a comparison of numerous cases. (See *Lawrence's Treatise on Diseases of the Eye*, edited by the speaker, pp. 637–648, Phila., 1854.)

The subject of the present case was a man 35 years of age, who stated that, after an attack of fever and ague followed by violent attacks of colic, he had lost his sight. When he first began to regain this faculty he could only discern shades, but could not distinguish a single colour. As his sight improved, he noticed first the blue lining of his carriage, and some time afterwards was delighted to find that he could distinguish the pink lining of his coat.

When seen by Dr. H. he could distinguish three colours—yellow, blue, and red—but he was unable to state when he had regained his ability to distinguish the first, as that colour had not been presented to his attention. The three colours mentioned were the only ones he could distinguish; when a bright red and a bright green were placed side by side before him, he could not distinguish one from the other, but if one were of a deeper shade than the other, he readily detected this difference.

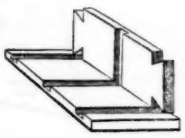
New Apparatus for Fracture of the Thigh.—Dr. HENRY HARTSHORNE made the following remarks: Having been indulged with the attention of the

College, in 1855, to the exhibition of an apparatus for the treatment of fractures of the femur upon an entirely new principle, it is proper now to state, that a full and sufficient trial of that apparatus has, since that period, educed the conclusion that an important practical difficulty exists in its use, which must interfere with its extensive employment. This difficulty is, the necessity of adapting the *counter-extending block* exactly to the person of each patient; which would require more skill and trouble than are likely in many instances to be available. This trial has not, however, nor have any other facts or considerations, afforded reason to doubt the correctness of the principles involved in the construction of that apparatus; namely, that, for treatment of fractures of the thigh, the apparatus should possess fixity and *firmness;* that the extension and counter-extension should be *in the same line;* that their amount or extent should be under *easy and exact control*, and that the *tuberosity of the ischium* is the centre of the most desirable region for counter-extension, as it is the best adapted, by structure and function, for continued pressure.

In examining the excellent report upon the treatment of fractures, by Dr. F. H. Hamilton, in the *Transactions of the American Medical Association* for 1857, we do not find, in the number of contrivances for fractured thigh there described and illustrated, any which meets fully the indications above mentioned. That which possesses, perhaps, the greatest amount of novelty, the invention of the Drs. Burge, of New York, is rendered comparatively unavailable by its complexity and expense; especially as it does not really remove all the inconveniences of the treatment.

While, therefore, the absence of an apparatus for the management of this important fracture, equally complete with those employed for fractures of the leg or arm, remains to be an opprobrium of surgery, it is obviously desirable that experiments and attempts should continue to be made, even if many successive efforts should meet with disappointment; as, thereby, one difficulty after another may be removed, and final success be rendered more probable. With this view, I venture to offer to the College, at the present time, another form of apparatus, distinct in some particulars from any in use. The excuse for not withholding its presentation until after its subjection to a full trial in actual practice, is, the long period which might elapse, with one not specially engaged in the practice of surgery, before the opportunity for such trial should occur.

Fig. 1.

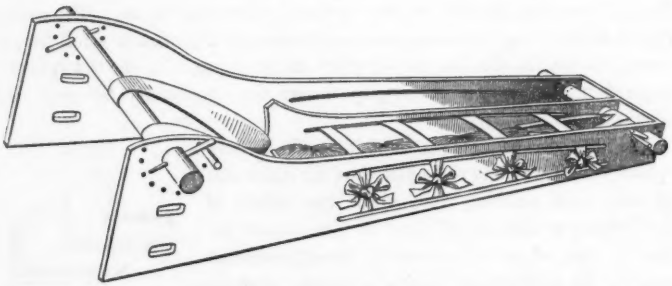


The apparatus consists (as exhibited) of two long splints, one of which is to be placed on the outer side of each limb, reaching from about the middle of the body to a distance of eight or nine inches below the feet, where the splints are firmly connected together by a foot-board having a bottom piece attached, into a groove in which each splint is made to slide, Fig. 1; the extension is maintained by means of a roller or wind-

lass, and adjusted by a pin at the side, as in the apparatus exhibited by me to the College in 1855 (see *Transactions of the Philadelphia College of Physicians*, October, 1855); adhesive plaster being the preferred material for the extending bands. For counter-extension, a similar bar or roller is made to pass from splint to splint at their upper ends (widened and elevated accordingly) *over the umbilicus;* the adjustment and control being arranged in the same way as with the extension, by means of a pin through one of the holes on the outside of either splint. The ends of the counter-extending band may be fastened at pleasure to any part of the upper roller; most desirably, however, at a considerable distance from each other, so that the force exerted may be in a direct line with the extension, and may act only upon the gluteal and tubero-ischiatic region. This mode of counter-extension, by means of a crossbar over the body, was familiar to my mind in 1855, but was deferred in use from the hope that the gluteal *block* might be more simple and convenient. Adhesive plaster may be readily employed upon the plan now described. Dr. D. Gilbert, of this city, has recently reported several cases (*Am. Journ. of Med. Sciences*, Jan., 1858) in which he has successfully used adhesive plaster for counter-extension, with Physick's modification of Desault's apparatus. I have also made use of it to a sufficient extent to be satisfied that the difficulty of employing it with that apparatus, without producing serious tumefaction and irritation, is great, on account of the *direction of the pressure*, involving the femoral vessels and lymphatics almost unavoidably. If, however, the direction of pressure is changed or reversed, as it may be in the apparatus now under description, no such inconvenience can prevent the success of the adhesive plaster, for counter-extension as well as extension; and this, I think, may be regarded as a considerable point gained.

With the usual strips of Scultetus, and a flat, wide junk bag under the whole limb, from *just above* the heel to *just below* the tuberosity of the

Fig. 2.

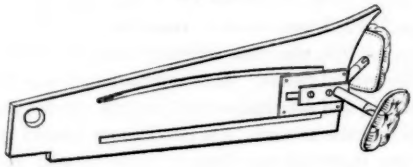


ischium, the apparatus may be viewed as, in its essential form, complete. But several additions may be still made to it, for particular purposes. A

middle splint may be easily affixed to the same foot-board and bottom piece above alluded to, so as to afford means of *lateral* fixation of the injured limb. A bandage, or a *splint of gutta percha* may also be passed through slits in the outer and middle splints, for the still greater security of the limb in its position.

Moreover, the middle splint may be made the medium of counter-extension against *both* tuberosities, by affixing to its upper end a fork (adjustable by a slide and screw) upon the end of each of whose branches is a pad, revolving freely so as to adapt itself to the part, Fig. 3.

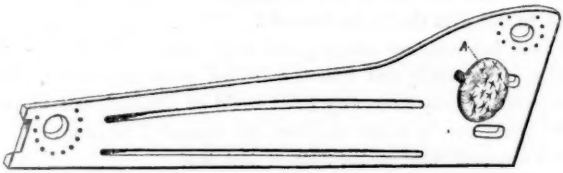
Fig. 3.



It is easy, also, if desired, to alter the method of counter-extension in any case, to that employed in Physick's Desault, by simply cutting holes in the usual position for them in the outer splint.

Farther still, we may adapt to this apparatus what appears to be the most original part of the apparatus of the Drs. Burge, viz: the arrangement for wedging the whole pelvis between two screws connected with the outer splints, and padded where they meet the outer surface of the ileum, Fig. 4, A.

Fig. 4.



By thus combining different elements, we have the opportunity, with the same apparatus, of using alternately *either of four* modes of counter-extension, viz: by the upper bar or roller, by the middle splint against the two tuberosities, by the perineal band of Desault, attached to the outer splint, and by the padded screws to fix the pelvis, as in the apparatus of the Drs. Burge.

Under such an alternation, or even with the counter-extension by means of the cross roller alone, it would seem impossible to fail in securing a sufficient degree of extension, without any risk of excoriation. The apparatus is, therefore, submitted to the profession, not without some confidence that it may answer a useful purpose, amongst, if not in place of the numerous

methods of treatment already employed. It may be added that, in its simplest form, the expense and difficulty of its construction are no greater than those of Physick's Desault, while the facility of application, and of retention in place, is much greater. The same apparatus may, also, with slight variation, be used for patients of considerable variety of size and figure; and is adapted to the management of fractures of the leg requiring extension, as well as to those of the thigh. For compound fractures, requiring bran dressing, &c., it may be converted into a *box*, by inserting a bottom between the outer and middle splint, on the injured side.

July 7th. Cancer of the Clitoris.—Dr. CORSE read the following:—

Early in July, 1857, I was called in consultation with Dr. A. O. Stillé to see Mrs. ———, æt. 66, who was suffering from a tumour in the upper commissure of the genital fissure. On examination, it was found to be about one inch in diameter, and attached centrally to the clitoris, and at its margin to the mucous membrane around. On inquiry, we learned that she had first begun to feel any inconvenience from it about a year previous. It was treated with caustics and entirely removed, or removed to such extent as to leave an excoriated ulcer where it had been attached; the ulcer did not heal kindly, but, after a prolonged treatment, began to throw out fungous granulations, which in time assumed the size and appearance of the original tumour. Excision was proposed, but deferred from time to time in the hope that an arrest of development in the tumour would take place. It was not long before the suffering from the incessant burning pain became almost intolerable, but an operation was not deemed advisable so long as the patient could get about and palliatives gave temporary relief. At length, the tumour increased to such a size that the patient was no longer able to walk, and was therefore confined to bed with the limbs distended. Her health now began to decline rapidly, and her constant suffering and helplessness made her an object of sympathy. Her family and friends entreated us to remove the tumour by excision, even if only temporary relief could be obtained, and in the belief that she could not be worse and live; we consented to remove it, and the operation was performed on the 24th of last May.

It had by this time grown to a considerable size and formed attachments all around the labia, and had pressed them so widely apart, that it was thought necessary to make the incisions in the sound parts beyond the tumour.

She was placed on a low bed in the usual position for the operation for stone in the bladder, and placed under the influence of ether, her hands being secured, one to each foot, as for the lithotomy operation. The incision was begun on the right side at the summit of the vulva and extended down to the perineum; a similar incision was made on the left side to the same extent to meet the former one. These rendered the mass movable enough to expose the extent of the attachment. The incisions were then deepened on each side to meet in the centre, excising the entire labia majora, minora, and

clitoris. The hemorrhage was very great, considering there was no large vessel cut, although it was not altogether unexpected, for oozing tumours always have a large supply of bloodvessels.

In the operation for amputation of the penis, it is said, in works on operative surgery, that seven arteries are to be secured, and the same number in the operation for excision of the clitoris; but often some of these bloodvessels are practically found to be small and not to need any attention whatever. In the present case, they were large and required attention. As soon as the tumour was laid aside, the usually small arteries seemed to be welling out on every side; tannic acid was freely applied to the whole cut surface, and promptly checked much of the hemorrhage; the larger vessels were then picked out and tied, and caustic applied to some of the more obstinate oozing, especially at the descending rami of the pubes, where the clitoris obtains its blood from the internal pudics.

The hemorrhage being stopped, the wound was dressed with cold water. She soon reacted, and no capillary oozing to any extent took place.

Next morning I found she had passed a tolerably comfortable night, more so than for a very long time.

The wound went on to heal kindly, and the patient is now walking about enjoying her regular meals and hours of repose, and very cheerful in spirits.

Dr. COATES added some particulars to the history of this case.

Dr. C. visited Mrs. D—— M—— for an irritable ulcer of the glans of the clitoris, fourth month (April) 4th, 1855, and, of course, three years and three months since. The whole glans was converted into an irregular set of flat bands, covered externally with the natural epithelium, and comprising within them deep, burrowing ulcers, lined by a thick, white, adhesive matter. There was no fungus at any point, and no hardening. The colour was a little brighter than natural.

The pain of this affection was excessively severe, greatly increased by walking, or by the contact of the clothing, and entirely embittering the unfortunate woman's life. He recommended cautery with nitrate of silver, and poultices of conium or hyoscyamus, to be exchanged for other narcotics. He warned her that, unless a very rapid improvement should become visible, it would unquestionably be her interest to have the glans extirpated. She was unwilling to undergo any treatment; and did not, as far as he was aware, at that time, ever make trial of the narcotics.

Cancer of the Neck.—Dr. CORSE reported the following case: Mr. ——, aged 70, applied to me in May, 1853, with a tumour on the right side of his neck, about an inch above the clavicle, and opposite the posterior border of the sterno-cleido-mastoid muscle. The shape of the tumour was fungiform, having a summit irregularly rounded and expanded. In size it was nearly as large as a hen's egg. Its base seemed to be attached not on but under the

skin, as if it had had its origin in a very small point, and by development dilated, for its attachment, an opening in the skin, which seemed rumpled or corrugated around the edges. It was movable, and seemed to have its attachment in the subcutaneous areolar tissue, and the base extended under the border to the extent of two or three lines, giving a purple hue to the integument to this extent.

Its whole surface was moist and constantly pouring out a sanguineous fluid, which exhausted the patient. The pain from it was incessant, and rather of a burning than a lancinating character. No refreshing sleep had been obtained for several months, and the short periods of repose were disturbed by paroxysms of increased pain. The appetite was gone from the continual irritation, and the family and friends could only anticipate a fatal termination at no distant period. An operation was requested for the removal of the tumour, and after duly considering all the circumstances, and making a prognosis unfavourable, the removal was determined upon.

An incision was made entirely around the tumour, outside of the diseased structure, through the integument, and the base cautiously dissected out. During the dissection, the tumour was found to be adherent to the external jugular, and could not be separated; this latter was, therefore, cut off, and a section of it removed along with the tumour.

Almost from the moment of the operation the general health improved, and the wound healed gradually without a bad symptom, and no great cicatrice was left.

The patient continued doing well until early this spring, when the cancer made its appearance again in the same place, and was slowly increasing when an attack of dysentery closed his life about three weeks ago.

The history of this case goes to show that the operation prolonged the life of the patient five years.

Gout.—Dr. RUSCHENBERGER submitted to the inspection of the Fellows casts of the hands of a gentleman who had recently died of gout.

Both hands were very much distorted, and the fingers strongly directed to the ulnar side. The first and second phalanges of the right middle finger were enveloped in a gouty tumour, rising three-quarters of an inch perpendicularly from the bone, and about an inch and a half in its transverse diameter; the index and ring fingers were widely separated by it. The thumb was nearly immovable, and slightly turned inwards upon the palm.

Over the left metacarpo-phalangeal joint of the index was an ulcerated tumour, and another occupied the first and second phalanges of the left ring finger; it was not less than an inch and an eighth by an inch and six-eighths in extent. The palmar surface of all these fingers was distended by gouty deposits. The point of the left thumb rested permanently against the second joint of the middle finger, which was partly flexed. None of the small joints were free from this deposit, specimens of which were shown.

Dr. R. then read the following history of the case:—

M. J. B., native of Philadelphia, died April 26, 1858, aged 69 years and 11 months.

He had resided in Natchez from 1817 till the spring of 1841. He lived freely, but was never intemperate nor dissipated. The disease was hereditary.

His first paroxysm of gout occurred in February 1829, and was supposed to be a severe inflammation of the foot, consequent upon chafing it in a stirrup during a long and arduous ride. The treatment consisted in the local application of ice, evaporating lotions and saline purgatives. A second paroxysm in 1830 was recognized as gout. In the spring of 1833 he had a severe attack in this city, and was treated by a distinguished professor in the University of Pennsylvania. Another severe paroxysm was suffered in Philadelphia in the year 1838, when he was treated chiefly by copious venesection. In 1839 he was again attacked at Natchez. On that occasion the case was treated by tightly bandaging the limbs, and dry frictions with a hand, continued for hours without interruption.

Just after leaving Natchez in the spring of 1841 on a steamer, he was most severely assailed by the disease, and was put on shore at Louisville, Ky., where he was treated during six weeks with enormous doses of colchicum, from the effects of which, as it was supposed, he was very near dying.

From Louisville he came to this city by land, stopping some weeks at the White Sulphur Springs of Virginia, where he bathed in, but did not drink the waters. He was obliged to lie extended in his carriage during the entire journey.

He had moderate attacks every year, generally in the spring, and recovered from each more and more damaged in his powers of locomotion. The lithic deposits began from the first in the toes, ankles, knees and hands, gradually increasing. Three months before death they existed on the scrotum, on the ears and in the sclerotic coat of the right eye, as large as mustard seeds. Vision remained unimpaired, and, though he was a constant reader, never required the assistance of spectacles.

He first came under my professional care in October, 1841, and from that date while I was in the city, I visited him. During my absence he was usually attended by Professor Carson. He was also visited by Professor A. Stillé.

When I first saw him, his powers of locomotion were so much impaired that he did not leave his apartment, except at long intervals, when he was carried abroad in a carriage. Seventeen years were passed in his room, and the last ten years of his life were spent in bed.

In the commencement of 1857, he became unable to feed himself, and during a greater part of the year he was annoyed greatly by an eczematous eruption over the angle of the jaw and side of the neck, accompanied by intolerable itching. About the same period his appetite, which was usually good, began to fail, and in December he suffered almost daily from nausea

and vomiting. He was no longer able to turn himself in bed, and the skin over the sacrum became abraded.

The bowels were habitually and obstinately constipated, and the dejections were always scybalous. They were constantly more or less distended with flatus, and this was frequently a source of excruciating pain. At times he discharged per anum incredible quantities of odourless gas. No variation of diet seemed to increase, nor did any remedy abate this flatulence, which was invariably augmented prior to a severe paroxysm of the disease.

A very great variety of laxative and purgative medicines were administered to obviate constipation, but no one of them or combination of them was satisfactory. In March, 1853, the following was prescribed, and met the requirements of the case so well that the patient preferred its operation to that of any laxative or purgative he had ever taken. These pills were used once, twice, or even thrice a week, during five years: ℞.—Colchici ext. acetic., Nucis vomicæ ext., āā gr. xxxvj; Potassæ bicarb. gr. xxiv; Tiglii olei ♏vj; Hyoscyami ext. gr. xlviij; Colocynth ext. comp. ʒij.—M. s. a. Ft. mass. in pil. xlviij dividend. S. One or two at bedtime.

Pain was almost constant. He found relief only in the use of opium, of which he took daily, for about eighteen years, from two to four grains, but never exceeded that quantity. He was a moderate chewer of tobacco, and drank about a fluidounce of whisky, largely diluted, every day after dinner.

The organs of respiration and circulation were never attacked. The last weeks of life were most painful. The stomach was irritable, except only when for a few hours in the day or night, he suffered severely in the joints. There was subsultus tendinum during five days; the gouty deposits were made to glide over each other by the jerking tendons, and suggested a notion that one was holding in his hand a small bag of moving marbles or large shot.

His intellect remained clear until within two or three hours of his decease, when he complained of pain in the head. The superorbital region presented suddenly an intumescence as large as a pigeon's egg, and then all evidence of consciousness was lost. His arms were tossed to and fro actively, almost until respiration ceased.

The parietes of the pouches formed about the small joints and beneath the toe nails by the lithic deposits, gradually ulcerated and gave exit to their contents. Small amorphous masses, the size of a pea and sometimes larger, of this mortar-like concretion, were often removed by the aid of lancet or probe, affording very great relief to the patient. These ulcers were exquisitely sensitive. Some of them were healed after discharging during three or four months, but simultaneously with their closure, other like fountains were opened either upon the hands or feet, which poured out tiny streams of globules that were often compared to those of a soft and broken shad-roe.

In the early years of the disease from which he suffered twenty-nine years, his temper was irritable and sometimes violent, but during the latter ten or twelve years, he so controlled it that no expression of impatience escaped his

lips even while in agony of pain. This power of self-control his friends attributed to a conviction and abiding faith in the truths of Christianity as taught in the Presbyterian Church.

My friend Dr. Bridges has examined the matter deposited, and ascertained that it is constituted of uric acid and soda.

Typhoid Fever without Tympanites.—Dr. LEVICK remarked that most medical men must have noticed the difficulty of forming a positive diagnosis in the early stages of idiopathic fevers. Dr. Bennett, in his recent work on clinical medicine, goes so far as to say that "in practice it will be found impossible to distinguish the varieties of continued fever before the twenty-first day." This difficulty is of course increased by the absence of what are described in the books as the characteristic phenomena of each form of febrile disease.

A tympanitic condition of the abdomen is acknowledged by all writers on the subject to be an almost constant attendant of typhoid fever. Beginning as a slight meteorism towards the close of the first week, it sometimes increases to such an extent as to interfere with the respiration, and very much to add to the discomfort of the patient.

A case of typhoid fever was then under care in the Pennsylvania Hospital, in which this symptom had been entirely absent. The case was, with this exception, a well-marked one of this fever. The patient was then in the third week of the disease; the surface of the abdomen and lower part of the thorax presented numerous characteristic lenticular red spots, which disappeared on pressure; while the abdomen, instead of being prominent, was so flattened that a line drawn from the spinous process of each ilium left a marked concavity beneath it. There had been but little diarrhœa, but the bowels were promptly affected by small doses of laxative medicine.

Dr. COATES said, that at the time of his attendance in the Pennsylvania Hospital, the external duties of the institution, and other unavoidable demands on his time, were such that recording and numerically abstracting cases were out of the question. He well recollected seeing cases of undeniably dothinenteric typhoid fever, having all the other symptoms, and running the usual course of the disease, in which, however, the abdomen was not salient. He was confident of the existence of two such instances.

As meteorism is a physiological symptom, and must depend, for its amount and extension, on the degree of irritability, and on the size and proportions of the organs, it seemed accordant with sound reason that the mere fact of the abdomen projecting, in the prostrate position, beyond lines drawn from the anterior point of the costal cartilages to the spinous processes of the ilium, should not be considered essential to the presence of the affection in question. In the cases alluded to there undoubtedly existed distension of the intestinal tubes with gas, though not sufficient to cause the projection thus defined.

Dothinenteric typhoid fever may occur to an extent comparatively very moderate, and yet be fully identified. One case, during the above described period, went through a well-marked course in eleven days. It was indicated by slow approach, general debility, moderate meteorism, pain in the abdomen near the umbilicus, tenderness in the right iliac region, eruptions of both kinds, diarrhœa, some bronchitis, and some emaciation. The disease being mild, the loss of strength and flesh was not excessive.

Exhaustion from Heat (*Sun-stroke*).—In reply to a question on the subject from Dr. Bell, Dr. LEVICK made the following remarks upon some cases:—

From the 26th to the 29th of June, inclusive, there were six persons admitted into the Pennsylvania Hospital suffering from the effects of heat, or, as it is popularly known, from sun-stroke. The thermometer (Fahrenheit) in the shade indicated a temperature of 94°; while under exposure to the rays of the sun, the heat was intense.

The first patient admitted was a German, æt. 22 years. He had been at work for ten hours in a sugar refinery, boiling sugar; had been in good health until late in the afternoon, when he became giddy, fell, and was brought to the hospital in a state of insensibility. When admitted, he had a feeble and frequent pulse, and was with much difficulty made to swallow. The treatment consisted in the exhibition of ammonia, the application of ice to the head, the use of strong mustard foot-baths, and injections of turpentine. Next morning his intelligence had returned, and his recovery was rapid.

Two men were brought late in the afternoon of the following day. They presented symptoms almost identical, and may be described together. They were large and robust Irish labourers, about 35 years old, had been at work on the railway, fell over insensible, and were brought at once to the hospital. When admitted, the skin was warm, but not of that pungent heat which is sometimes noticed; the head hotter than the body; pupils somewhat dilated; pulse 130, and scarcely to be counted; respiration stertorous, and mingled with tracheal râles; the heart acting rapidly, but its sounds feeble; deglutition impossible. *Treatment.*—Strong mustard foot-baths, cold to the head, stimulating injections. Both died two hours after admission. An attempt was made, ten hours after death, to make an examination, but putrefaction had already occurred to such an extent as to render it impossible.

Case 4 was a captain of a small vessel on the Schuylkill River; fell over, was bled, and then brought to the hospital in a state of incomplete unconsciousness. *Treatment.*—Cold to the head, mustard foot-baths, and injections of oil of turpentine. This patient's recovery was a rapid one, and he left the hospital five days afterwards. On the following day he died suddenly, out of the house; but nothing could be learned of the nature of this attack.

Case 5. A Cuban, aged 28 years, a seaman, was admitted late in the afternoon. As was subsequently learned, he had walked from Richmond (in the upper part of the town), with mats for sale; that he felt giddy, things looked

blue around him, and he fell over insensible. He was picked up in Washington Square, and brought in this state to the hospital. *Condition at time of admission.*—Skin warm, not hot; head warmer than trunk; pupils contracted; pulse 120 to 125; respiration sighing and moaning; deglutition impossible, liquids put into his mouth passing into the larynx. *Treatment.*—Cold to the head, mustard foot-baths, injections of oil of turpentine (f℥j) every half hour. Under this treatment a gradual improvement took place, and on the following morning he had so far recovered as to give the above account of himself. Two years before, he had had a similar attack while in Callao. After this, the improvement was rapid, and he left the house four days later.

Case 6. A seaman, aged 23 years, born in Ireland; admitted a few minutes after the last-named patient. *Condition at time of admission.*—Complete mental unconsciousness, with total inability to swallow; skin moderately warm; pupils nearly natural; pulse frequent and feeble. *Treatment.*—Same as preceding case. On the next morning his intelligence had returned, and he gave the following history of himself: He had walked from Fifteenth and Lombard Streets to Market Street wharf, felt some headache, then walked up Chestnut Street; became dizzy, felt as if drunk, then became insensible. This occurred at about 5 o'clock P. M.; an hour later he was brought to the hospital. He left the house, at his own request, four days later, entirely well.

Besides the above, six more patients were brought to the house as cases of sun-stroke. Two of this number were young hysterical women. In both instances they had walked a great distance, and had fallen insensible. The first of these presented so many of the symptoms of sun-stroke as to have been largely bled before she was brought to the hospital. Under the treatment above mentioned, her recovery took place, though but slowly. The second presented but few alarming symptoms, being a case of hysterical convulsions, in which the heat and fatigue seemed to be the exciting cause. A third case was that of an epileptic patient, whose attack was an unusually severe one, and was attributed by his friends to a long and fatiguing walk in the heat of the day. The fourth and fifth were cases of sun-stroke, occurring to labourers, under circumstances similar to those before mentioned, and presenting similar phenomena. Both of these recovered under the treatment already mentioned.

The last of the cases alluded to was a lad, æt. 17, employed on a canal-boat. He had been engaged during the morning in unloading coal at a wharf in New York, while doing which he complained of pain in the head, and fell over in a convulsion. He remained in a state of stupor, and was brought to Trenton in the canal-boat, unprotected, and thence by railway to Philadelphia. At the time of his admission he was in a semi-stupid state, but could be roused with some exertion. He had at this time ptosis of the right eye, with occasional delirium and other symptoms of inflammation of the brain, for which latter affection he was put under the use of calomel, in small and repeated

doses, blister to the nape of the neck, &c. After death there was found extensive inflammation at the base of the brain.

There are two or three points of interest in the preceding cases, which may be briefly alluded to. It will be noticed that in all of these the attack occurred in the latter part of the day—from four to six o'clock P. M.—at a time when the exhausting effects of prolonged labour were likely to be most felt. With but one exception, and that by no means a positive one, every man was a foreigner. The subjects of these attacks were not, as might be supposed, persons enfeebled by age or previous sickness. Their ages varied from 17 to 40, the majority being between 20 and 30 years of age.

While the results were somewhat satisfactory, it would lead to false inferences were all the cases reported classed with those of sun-stroke, the mortality of which is known to be so fearful. Of the first six cases reported, it will be noticed, two were moribund at the time of their admission. Cases 5 and 6 were of the gravest character, genuine cases of sun-stroke, with the absence of one symptom which is justly looked upon as highly alarming—a hot, pungent skin. Cases 1 and 4 were of a very serious character, though not quite to the extent of those just mentioned. Of the remaining cases, two were well-marked instances of sun-stroke; while three, occurring as they did in epileptic and hysterical persons, can afford no information as to the ordinary phenomena and results of the disease.

So far as the pathology of the affection is concerned, we may at once say that the cases before us, with one exception, coincide in representing it to be a condition of exhaustion, rather than of stimulation or cerebral congestion. The last case would tend to confirm the received opinion that different conditions may result from the same cause, in this instance terminating in cerebral inflammation, in the others in nervous exhaustion. For these different conditions different modes of treatment are required, and the diagnosis of the two becomes a matter of the utmost importance; but there can be no doubt in the minds of all whose opportunities for observing such cases have been frequent, that in *by far the greater number of cases of sun-stroke it is depression, not excitement, which we are to combat.* To have bled in any of the cases mentioned, would have been worse than useless, even the case of cerebral inflammation having never been in a condition to permit the use of the lancet while with us.

The treatment adopted presents but little novelty. Stimulating enemata, where deglutition is impossible, have been long resorted to, but it is worthy of consideration whether there may not a special value attach to the spirit of turpentine in these cases. It is, to say the least, an interesting coincidence that the remedy which has been found of value in malignant fevers should be used with advantage in this disease, in which the blood presents after death much the same character as it does after typhus.

If one principle were more insisted upon than another in the treatment of these cases, it was the importance of avoiding any expenditure of the little

remaining strength of the patient. With this view the foot-tub was placed in the bed, the patient remaining on his back. Though recommended in such cases, the full bath is not without danger. The chief indication for its use is in the stimulus afforded by the *hot* bath, for which in practice the *warm* bath is too often substituted. The removal of the patient to the bath-room is rarely effected without some exertion or resistance on his part, while the depressing influence of the *warm* bath may fatally exhaust the forces which barely maintain the balance between life and death. For these reasons none of the preceding patients were put in the bath.

It is somewhat surprising that so little has been said or written on this subject, for, excepting on the field of battle, it is rare that persons are in such numbers so suddenly and so hopelessly struck down while in the vigour of health, of strength, and of youth.

Dr. CARSON said, that in the summer of 1830, while he was resident physician in the Almshouse Hospital, he observed a number of fatal "cold water" cases, as they were then called, which all appeared to be rather cases of exhaustion from heat and rum drinking than from the sudden imbibition of pure cold water. The great heat of skin was characteristic. These patients were, all of them, broken down from intemperance and bad living, and came from a very bad neighbourhood. The mortality among them was great.

Dr. T. H. BACHE stated that during the summer of 1853, while resident-physician at the Pennsylvania Hospital, he had attended a number of sun-stroke cases, and that the mortality was very great, hardly a single case recovering. The treatment adopted was a stimulating one; but, prior to admission, some of the cases had been bled.

When allowed by the friends, *post-mortem* examinations were made, and the pathological appearances noted at the time. He could not recollect the precise lesions observed, but might at a future time give an abstract of them to the College. One thing, however, he did remember; and that is, that they did not confirm the statements made by Drs. Pepper and Reed (vide *Trans. Coll.*, vol. iii. p. 100), in regard to softening of the heart.

Dr. BELL remarked, that cases of illness from heat might and did occur, which could not be fairly denominated sun-stroke. These cases might have symptoms of excitement, and might bear bleeding without serious injury. He referred to one instance in which free venesection had been ventured on, and yet the man recovered. Dr. Bell also related an instance of the rapid decomposition after death, which had been mentioned as characteristic of sun-stroke.

Dr. COATES well recollected the time when cautions against sudden death from excess in drinking cold water while the body was excited, and during the intense heats of summer, were thought of so much consequence as to be posted, by order of the Humane Society, on the pumps designed for public use throughout the city. Between 1814 and 1819, while he inhabited the Pennsylvania

Hospital, persons alleged to be suffering from this cause were frequently brought to the institution. They were, in nearly or quite every instance, visibly under the influence of ardent spirits; the remedy then advised by authoritative men and the employment of which was warmly seconded by tavern-keepers. It was the unanimous conviction of those who attended them at the hospital that their symptoms indicated disease of the brain, and, probably, congestion, rather than the spasmodic affection of the stomach described by Dr. Rush. This last, however, he had seen, but in very few instances. The cephalic cases received little other treatment than rest, silence, a gloomy room, cold to the head, mild stimulants to remote parts of the skin, laxatives, and a cool, abstemious, and sedative diet. The impression on his mind was that there was almost entire success. He had not examined the hospital records on this point, but he had no clear recollection of any death in such a case. Their patients of this class were generally young and in the vigour of life.

It had often struck him how exact a reverse to what might have been expected really took place when the use of ice became popular in Philadelphia. When the luxury was first made abundant and cheap in our city, the greatest terror of destructive effects from excess in its use by the young, ignorant, and imprudent, was almost universal; and the newspapers were thickly bestrewn with remonstrances against the imagined frequency of suicide by ice cream. Thus, while cold refreshments were few and moderate, they were charged with the production of sickness and with manslaughter; while, since they have become abundant and really excessive, the danger appears to have been forgotten.

August 4. *Foreign Body in the Ear.*—Dr. CORSE read the following report of a case of this:—

A little girl, aged 7 years, daughter of Simon King, was brought to my office with something in her ear. She had been to several physicians already, and the meatus auditorius externus was swollen, bloody, and inflamed. On examination by speculum, I was at first inclined to the belief that the parents were mistaken as to the existence of a foreign body in the ear; but they assured me that the object had been distinctly seen, and the little girl said it was a stone.

On further examination by means of a probe, I could feel a hard body at the bottom of the canal; and on further inquiry, I was informed that her ear had been pulled at very much, and that a considerable amount of blood had flowed from it. I then supposed the membrana tympani to have been ruptured, and that the hard body felt was the petrous portion of the temporal bone, for the probe did not cling to it as to a stone, or bone denuded of its periosteum. I have since been led to suppose that the slippery feel was due to blood coagulated or encrusted on the stone. I made efforts to move the body with a probe, but it was immovable. After a close and attentive examination, I was unable to make up my mind satisfactorily as to the precise

nature of the case. The patient having a furred tongue and constipated bowels, I directed a purge and other treatment to keep down inflammation, and ordered the ear to be gently syringed several times a day with lukewarm water, requesting her to return to me the next day.

On their return, they informed me that a stone had been put into each ear while at play; and on examination of the other ear, I found truly a hard white body near the middle of the meatus. I cautiously tried to get a pair of forceps on it, but it constantly slipped from the grasp, and was soon at the bottom of the meatus. Mortified with my failure, I ceased my efforts, and directed the parents to return the next day, to continue the antiphlogistic treatment of the inflamed ear, and do nothing at all to the other one.

I was satisfied there was a foreign body, hard and round, in the ear, which filled the canal, or so nearly filled it that no forceps I was acquainted with could pass down on each side; it therefore became necessary to adapt some instrument to the case, and I drew a diagram of this instrument, which Mr.

J. H. Gemrig, surgical instrument maker, Eighth Street, below Chestnut, has made for me. It consists of two blades and a fulcrum, the latter being separable from the former. Each blade should be $2\frac{5}{8}$ inches long, $\frac{3}{16}$ of an inch wide, and laterally curved so as to form a segment of a cylinder $\frac{1}{4}$ of an inch in diameter, in order that it would apply to the sides of the auditory canal. The blades should not be more than $\frac{1}{4}$ of a line in thickness. At first glance, this may seem too thin; but when the cylindrical shape is remembered, it is easy to perceive that the strength is thus greatly increased, while the small space we have to operate in renders a thick blade entirely useless. There should be a slit in each blade, at the outer end, $\frac{3}{4}$ of an inch long, and $\frac{1}{2}$ a line wide, for the shank of the button on the fulcrum to slide in. The fulcrum must be adapted so as to be movable, and have a button on each side adjusted to the slits in the blades, and thus secure them, as well as operate as a fulcrum. It must be $\frac{3}{16}$ of an inch in diameter, in order to separate the outer ends of the blades, and at the same time close the inner ones, and by this means more effectually clasp the foreign body. The blades ought to be graduated, in order to know how deep they can be inserted, lest they be pushed through the membrana tympani.

In using this instrument in very difficult cases, a blade must be applied anteriorly first, because the anterior side of the canal has a slight convexity, which makes it necessary for the outer end of the blade to be thrown strongly back, in order for it to pass the foreign body if large; then, by straightening it up, the body will be somewhat moved from the membrana tympani, and the danger of injury to it avoided. The other blade may then be applied posteriorly, and not pushed quite as low down as the first one. The fulcrum

may then be applied; and to do so, the ends of the blades must be separated, and the fulcrum laid in the hollow and slid down until the buttons are locked in the slits on each side; then making pressure in the middle, with a gentle to and fro movement, the body may be withdrawn.

In appreciating the utility of this instrument, the shape of the cavity must be referred to. The meatus auditorius externus is described as an ovoidal canal about one inch long and three lines in diameter, part bony and part membrano-cartilaginous, and curved. It is somewhat constricted in the middle, and lined throughout by a membrane, which crosses the internal extremity obliquely and closes it, and constitutes the membrana tympani. The external extremity of the canal is overhung by a part of the external ear. It will be readily perceived that a foreign body of any considerable size, that passes the middle of the canal, will be much more difficult to remove, on account of the narrowing in the middle.

Dr. COATES remarked upon the difficulty, and the best mode of extracting foreign bodies from the meatus auditorius. The danger of injuring the membrana tympani rendered all instrumental interference more or less objectionable. He had thought that quicksilver might be employed with caution for the purpose; and he would now make the suggestion, as one of an expedient, at least, worth the trial. A small quantity only should be used, just enough to float the intruding body, without injuriously pressing on the membrana tympani. The only objection that he was aware of, was the possible existence of an opening in the membrane. Such an opening, however, would rarely occur; and might generally be suspected, when present, from previous symptoms which would be ascertained by inquiry.

Dr. CORSE thought that the quicksilver might answer for living insects, and for bodies not firmly impacted. He had removed the latter, and dead insects by means of strong jets of water from a good-sized syringe with a very slender nozzle, in the usual way. Insects, however, on account of the insufferable noise and pain occasioned in the ear, are generally killed with oil, and in dying fasten themselves with their claws, so as to be not easily detached. The quicksilver would be apt to fail in such cases. Dr. CORSE then dwelt at some length on the difficulties in the efficient use of the ordinary instruments.

Uterus taken from a Patient who had died, of Acute Disease of the Brain, whilst Menstruating.—Dr. W. W. GERHARD exhibited this specimen, and gave the following particulars of the case:—

Elizabeth Cook, æt. 25 years; English; married 7 years ago; has had two miscarriages and one still-birth; subject lately to menorrhagia, the discharge returning profusely every two weeks. She died of apoplexy, in the Pennsylvania Hospital, during one of her menstrual periods.

He was indebted to Dr. PACKARD for the following statement relative to the post-mortem appearances of the part exhibited:—

All the sexual organs were greatly reddened, especially the uterus, the left ovary, and the left Fallopian tube, which latter presented an enlargement near its fimbriated extremity. The inner surface of the uterus was of a very bright red colour, and the orifices of its follicular glands very perceptible; the mucous membrane seemed also to have a finely papillated or villous character.

The epithelium, being scraped off and examined under the microscope, was found to consist of a mixture of columnar and squamous cells. No evidence of any new formation could be detected.

The left Fallopian tube, carefully slit open from one end to the other, contained, in the dilatation above alluded to, a quantity of dirty red, grumous liquid, which, under the microscope, was found to consist of the ordinary ciliated columnar epithelium of the tube, and of masses of corpuscles, resembling nuclei; the form of the masses was very irregular, depending entirely upon the position assumed by the corpuscles.

At several points on the surface of each ovary, there were minute dots, like orifices, each one corresponding to a Graafian vesicle. Two of these being laid open, their contents were examined under the microscope, and found to present a few granular nucleated cells of considerable size, floating in a homogeneous liquid. Patches of extremely delicate squamous epithelium were found in the scrapings of the lining membrane of the vesicles.

Cancer and Abscess of the Liver.—Dr. LEVICK exhibited the liver of a woman, æt. 35, who had died a few days before in the Pennsylvania Hospital. She had been a nurse for many years, and was admitted into the hospital on the 26th of June. She complained, at this time, of a dull, dragging pain in the lower part of her abdomen, which she had suffered more or less from, since last Christmas, previous to which time, she said her health had for the most part been good. She was but moderately emaciated, pale, but not jaundiced. There was complete dulness, on percussion, over the entire region of the abdomen, which latter was tense and painful under strong pressure.

The ointment of iodine was applied to the surface of the abdomen, and the patient ordered quinine and nutritious food. A few weeks later, she was attacked with an eruption of large pustules, which appeared in such numbers that the whole body was covered with them, and the patient died, worn out with the exhausting effects of the discharge and suppurative fever accompanying it.

After death, the liver was found to occupy almost the entire cavity of the abdomen, measuring, as might then be seen, 19 inches in its vertical diameter, and 16½ inches transversely. A tape encompassing it longitudinally measured 30¾ inches, transversely 29½ inches. Its weight is 9¾ lbs.[1] It might be seen

[1] The ordinary measurements, as given in the books, are—vertical diameter about 7 inches, transverse diameter 10 to 12 inches, weight from 3 to 5 pounds.

to be studded with masses of medullary cancer, varying in size from a pea to a large orange, presented a mottled nutmeg appearance, and was of a lighter colour than the natural hue of the liver. The surface of the organ, when first removed, imparted a sense of fluctuation to the finger, and the right lobe, when opened, was found to contain an enormous abscess, filled with fetid pus. A similar abscess, though smaller, was found in the left lobe. Cancerous masses existed in the pancreas, and a cyst, containing nearly a pint of fluid, was attached to the left ovary.

REVIEWS.

ART. XIV.—*A Manual of Psychological Medicine, containing the History, Nosology, Description, Statistics, Diagnosis, Pathology and Treatment of Insanity.* With an appendix of cases. By JOHN CHARLES BUCKNILL, M. D., Lond., L. R. C. P., Medical Superintendent of the Devon County Lunatic Asylum, &c. &c. &c.; and by DANIEL H. TUKE, M. D., L. R. C. P., Lecturer on Psychological Medicine at the York School of Medicine, and Visiting Medical Officer of the York Retreat. Philad.: Blanchard & Lea, 1858. Pp. 536, 8vo.

THE connection of mind and body in its influence upon the manifestations of disease, demands more attention than it commonly receives from medical men. The physician should continually bear in mind that many of the causes of disease act through the mind, that many of its symptoms are mental, and that mental influences often, and we may say generally, have a great agency in either opposing or promoting the cure. All this is true even of the general range of disease. It is not merely when the brain, the organ of the mind, is directly affected, that mental symptoms are present, and mental care becomes a part of the duty of the physician. For, as every part in the body has a nervous connection with this organ, there is no ailment so remote from it that it is without the sphere of its influence, or that it exerts none upon it in return.

Although this view of the psychological relations of disease and its therapeutics be so obvious on the very face of things, there is no part of practical medicine which is so little understood. Comparatively few physicians make mental influence a prominent agency in the cure of disease. The great body of the profession have no conception of the necessity that a physician should be in the highest and best sense of the term a metaphysician—that he should understand the laws by which the operations of the mind are governed, the modifications of these operations caused by varying physical states, and also the physical effects produced by varying conditions of the mind. Mere glimpses of this department of medicine are all that are realized by most physicians as they go the rounds of their daily practice. They do indeed exert much mental influence upon their patients, without being aware of it, and some of them acquire at hap-hazard a good degree of skill in mental medication, as we may term it; but they do not rise to anything like an adequate conception of the extent to which such skill can be applied. It is only a few who make this a study as really as they do the application of drugs in the cure of disease, thus recognizing in full the important truth that the physician is not the physician of the body alone, but of a body inhabited by a soul, nay more, united with it by connections close and numberless.

With this general neglect of psychological medicine in its wide range, there is, of course, great ignorance of that particular department of medicine which may be especially entitled psychological, and which forms the subject of the book under review. Indeed ignorance of the one involves ignorance of the

other. Insanity cannot be fully understood by one who does not study the mutual influence of mind and body in the whole range of disease. The unnatural separation of this subject from all other views of disease, engenders narrow and erroneous ideas. We apprehend that a large proportion of those practitioners who have had charge of retreats for the insane, have committed this error to a greater or less extent. And hence in part it is, that less practical information in regard to the treatment of insanity has been given by them to the medical public than we had a right to expect. The advantages of practice in hospitals for gathering accurate and extensive information are very great, and therefore lay upon the conductors of them high responsibilities in relation to the profession at large. That such responsibilities have not been as fully discharged in the case of retreats for the insane as in ordinary hospitals, we think cannot be denied; and one reason for this is that which we have given above. It is obvious that there has not been that common ground between the profession at large and the physicians of retreats for the insane, that there has been between the profession and other hospitals. Physicians having charge of the insane have been prone to consider themselves as standing somewhat aloof from common medical practice, and they have been so considered by practitioners generally.

The effect of such a separation is injurious to both parties. The general practitioner is led to take it almost for granted that he has nothing to do with insanity, but that it is to be wholly turned over to the care of those who make this their special study. He therefore knows but little about it. On the other hand, the physician of the retreat, narrowing his mind down to this subject alone, and shutting out from his view all else except what has most obviously an incidental relation to insanity, really deprives himself of the aid of much that can shed light on the subject to which he so earnestly devotes himself. It would be better for both to take a broader range of investigation. He who has care of the insane would be better fitted for this department if he cultivated the whole field of psychological medicine; and the ordinary practitioner would be better able to use all the mental appliances of his art in his daily practice, if he made himself thoroughly acquainted with the different phases presented by insanity.

But there are other reasons why the ordinary practitioner should pay more attention to the subject of insanity than is commonly done. He cannot avoid having something to do with the insane, and that too in the most important period of their insanity. At the very outset of many cases, the treatment is to be directed by him. Ignorance, therefore, on his part may occasion great damage to the patient, either by inappropriate treatment, or by the failure to do what is demanded by the case. As the physician goes his daily rounds, he sometimes meets with persons who are really insane, and yet are not supposed to be so by their friends. His duty is to reveal to them the fact, and to urge upon them the necessity of an early removal to some asylum. If he be ignorant on the subject, as many physicians are, he will fail to be of service in this way; and most disastrous results may sometimes come from the failure. In some cases where the insanity comes on insidiously, and the friends of the patient do not perceive its existence, there is danger that the malady will become immovably fixed before anything effectual be done. A physician of the requisite knowledge and discrimination may be of essential service in such a case, by revealing to friends its true character, and convincing them of the necessity of an immediate attention to it. A failure to do this has put many a case into the incurable lists of patients in our retreats.

We have often known insanity to be aggravated by the bungling manage-

ment of physicians. This occurs more often in the use of mental than physical means, simply because medical men are more at home in the application of the latter. The plainest principles of common sense are often transgressed, not only by the friends of the insane, but often by the physician, in the mental influences exerted upon them. When such injurious influences are experienced by the patient for some length of time, as they are in cases where the fact of insanity is doubted week after week, and month after month, the case assumes a very bad character. Perhaps there is no one thing which so often produces an injurious effect upon the insane as deception. The practice of it is exceedingly common, and is sometimes connived at and even practised by physicians. We once knew a physician of high standing in the community to authorize a plan for getting a patient into an asylum by deception, which had a most obviously bad influence upon the case, making the insanity to take on at once a more decided and inveterate character. As the man was put into the retreat by trickery, he escaped from his confinement by trickery also; and as the same bad management was continued, his insanity was steadily increased till at length he ended his life by committing suicide.

The ignorance which many physicians show in regard to insanity is only to be accounted for by the very common neglect with which the subject is treated by the profession. This neglect is not confined to those who have a low rank, but is seen often in those who are prominent, at least in the eyes of the public. As illustrating this point, we call to mind now the case of an insane prisoner, supposed by the physician who attended on the inmates of the prison to be only obstinate and vicious, and therefore day after day put to harder work by way of punishment, who after a while made his insanity patent to all by killing one of the keepers. The evidences of insanity in this case were such, that although they might deceive an ordinary observer, they ought, one would think, to be recognized by any tolerably educated physician; and yet here was a physician better educated than most of the profession, having a prominent position in a very intelligent community, that did not recognize them. What is the explanation? Either he was most culpably careless in regard to the representations made to him of the case, or in common with most other physicians he had neglected to study the subject of insanity as being out of his sphere, or perhaps it was from both these causes conjoined that he committed the blunder.

There are many cases of a most interesting character that fall under the care of the ordinary physician in which, although insanity does not exist, yet the mind is so much affected, that skill in exerting mental influences is of great service; and the skill required is just of that character which the physician of the insane acquires by his study and experience. Of course, the study of insanity will help to give this skill to the ordinary practitioner.

It being then so important that physicians generally should have a competent knowledge of insanity, the question arises, what books can be used by them as guides in their studies and observations. There are many good books, but we think that there is none which will so generally answer the purpose as the one under review. And we are glad, therefore, to see this reprint from the English edition. Every physician ought to have some work on insanity, and, as most can afford to have but one, we would recommend this unreservedly as the best. It is sufficiently full; it is clear in its statements and descriptions, and very discriminating in its practical views.

We propose in this review to give the reader some idea of the quality of the work, and to comment upon some of the views of its authors, having for our object in part to bring the work to the notice of the profession in this

country, and in part to develop some points in the subject of insanity which are of great practical interest.

The work is by two authors, Dr. Tuke giving the chapters on the history, nosology, description, and statistics of insanity, and Dr. Bucknill those on its diagnosis, pathology, and treatment. We do not fancy this copartnership in making books, unless there be a special reason for it, which does not appear in this case. We like generally to see a book having the character of an individual author stamped upon it throughout. When two unite in making a book, there is apt to be manifest an effort on the part of both to assimilate in style, thereby in a measure destroying the individuality of each. This fashion (for it is a fashion in book-making) seems to be becoming quite common, more so in England than in this country. One of the most learned and, at the same time, interesting books recently published is the work of two authors. We refer to Conybeare and Howson's *Life and Epistles of St. Paul.* In this book, as well as in the one before us, while the writers are both much better than ordinary, they have no such peculiarities as would prevent the assimilation of which we have spoken, or occasion any marked perception of the difference if the assimilation did not take place.

The first chapter, which contains a "Historical Sketch of Insanity among the Nations of Antiquity," though it has not much practical value, has some curious matter in it. It has some quotations from Plato, which show that he had the most confused and loose ideas of human responsibility. Indeed, we find in the following passages the doctrine, baldly stated, that man is wholly irresponsible. After accounting for diseases of the soul, as he terms them, he says:—

"And indeed it may almost be asserted that all intemperance in any kind of pleasure, *and all disgraceful conduct*, is not properly blamed as the consequence of voluntary guilt. For *no one is voluntarily bad;* but he who is depraved becomes so through a certain bad habit of body, and an ill-governed education." "All the vicious are vicious through two most involuntary causes, which we shall always ascribe rather to the planters than the things planted; and to the trainers rather than those trained."

The following specimen of wild and bungling speculation about the physiology of the brain and the pathology of insanity is cited from Hippocrates.

"Men ought to know," he says, "that from nothing else but thence (the brain) come joys, despondency, and lamentations. And by this, in an especial manner, we acquire wisdom and knowledge, and see and hear, and know what are foul and what are fair, what are bad and what are good, what are sweet and what unsavory; some we discriminate by habit, and some we perceive by their utility. By this we distinguish objects of relish and disrelish, according to the seasons; and the same things do not always please us. And by the same organ we become MAD and delirious, and fears and terrors assail us, some by night and some by day; and dreams and untimely wanderings, and cares that are not suitable, and ignorance of present circumstances, desuetude, and unskilfulness. All these things we endure from the brain when it is not healthy, but is more hot, more cold, more moist, or more dry than natural, or when it suffers any other preternatural and unusual affection. And we become MAD from humidity (*of the brain*). For when it is more moist than natural, it is necessarily put into motion, and the affected part being moved, neither the sight nor hearing can be at rest, and the tongue speaks in accordance with the sight and hearing. As long as the brain is at rest the man enjoys his reason; but the depravement of the brain arises from phlegm and bile, either of which you may recognize in this manner: Those who are mad from phlegm are quiet; and do not cry out or make a noise; but those from bile are vociferous, malignant, and will not be quiet, but are always doing something improper. If the

madness be constant, these are the causes thereof. But if terrors and fears assail, they are connected with derangement of the brain, and derangement is owing to its being heated. And it is heated by bile when it is determined to the brain along the bloodvessels running from the trunk, and fear is present until it return again to the veins and trunk, when it ceases. He is grieved and troubled when the brain is unseasonably cooled and contracted beyond its wont. It suffers this from phlegm; and from the same affection the patient becomes oblivious."

The second chapter is on the "Opinions of Ancient Medical Writers on the Treatment of the Insane." It begins thus:—

"Music is the first recorded remedy employed, so far as we are aware, for the relief of madness. That 'ancient musician,' of whom it has been said that he struck tones that were an echo of the sphere harmonies, 'took an harp and played with his hand; so Saul was refreshed and was well, and the evil spirit departed from him.'"

We simply remark that we doubt the propriety of thus summarily putting the wicked Saul among the insane. The evidence of his belonging in that category is at least insufficient.

There are in this chapter some curious examples of a very ancient recognition of the homœopathic doctrine, showing that this medical vagary was far from being original with Hahneman. Thus, Democritus says of hellebore—

"I am persuaded that if to me you should give hellebore to drink as to the insane, it would be right that the insane should escape it; and, according to your art, you would have blamed it as being itself the cause of madness. For hellebore, when given to the sane, pours darkness over the mind, but to the insane it is very profitable."

So also in those times some recommended intoxication as a remedy for insanity, because madness is often caused by it. These are about as good illustrations as we hear at the present day of *similia similibus curantur* from the busy tongues of the refined lady and clerical patrons of this delusion.

There was some heroic practice in those days in insanity. Such measures as strong purgation, extreme abstinence, and free bleeding were quite in vogue. It seems from Cælius Aurelianus that bleeding was employed by some in his day to a fearful extent. Patients were often bled from both arms to syncope, and death was sometimes the result. He protested against such heroic measures, and, like Hippocrates and many other of the ancients, he has much practical good sense mixed with much that is sheer nonsense.

The next chapter, on "Modern Civilization in its Bearing upon Insanity," is an exceedingly interesting one. The conclusions to which the facts commented upon lead are very well summed up thus:—

1. That, while the greater facilities which exist in civilized countries for obtaining a knowledge of the numbers of the insane, and the greater degree in which the disease is recognized, render any just comparison very difficult, and tend to show a much larger proportion than is actually the case, there can be little doubt, nevertheless, after making due allowance for this source of error, that insanity attains its maximum development among civilized nations, remaining at a minimum among barbarous nations, as well as among children and animals below man.

2. That, having regard to the main causes of insanity, there can be no reasonable doubt that, in modern civilized society, these outweigh those circumstances which might be supposed to favour mental health; these unfavourable causes being principally the increased susceptibility of the emotions to slight impressions, consequent upon their constant cultivation, the abuse of stimulants, and the overwork to which the brain is subjected, especially in

early life, by an overwrought system of education—the higher emotions or moral sentiments, the lower propensities, and the intellectual faculties, being thus all subjected, separately or combined, to an amount of excitement unknown to savage tribes.

3. That, inasmuch as all civilization is, up to the present time, to be regarded as imperfect and transitionary, it does not necessarily follow, from the foregoing, that civilization, carried out to its perfect development—a civilization which should exactly temper the force of the emotions, moderate intellectual exertion, and banish intemperance—it does not follow, perhaps, that such a civilization as this would generate mental disease. Even such a condition of society as this, however (which, it is to be feared, will never be realized), would, we believe, present greater danger to the integrity of the great centre of the nervous system than a state of barbarism."

Much is said at the present time of the influence of over-study in schools in impairing the vigour of the young and laying the foundation of disease—mental disease with the rest. We think that too much stress is laid upon the *amount* of study merely. The *mode* of studying has much to do with the result. Education is made too much a drudgery throughout, but especially at the beginning. The mind is subjected to the tedium of learning things that it cannot understand, and hence the school-room is looked upon, for the most part, as a place of both mental and bodily torture. This ought not so to be. The school-room should be a happy place. It can be so if education be conducted aright. But to make it so, there needs to be a radical change both in the notions and habits of teachers, and in the construction of text-books. Such a change we believe is soon to be effected; and when it is done, it will be found that much more real knowledge can be acquired by the young without any damage to their health and their brains than is now acquired with this damage. The buoyancy of mind attending right methods of communicating knowledge is beneficial to body as well as mind; while the fretting and dissatisfaction occasioned by wrong modes, making mental labour a weariness, are depressing to both mental and bodily vigour, and hence dwarf both the intellectual and physical powers, and sow the seeds of disease both in mind and body. The defect pointed out as existing especially at the outset of education appears more or less throughout its whole course, and is, we have no doubt, a prominent cause of insanity as well as of other disease. We should like to enlarge upon this important point, but our limits will not allow it.

The general conclusion, that civilization is attended with more insanity than a state of barbarism, has been combated by a writer in the *Quarterly Review* with quite a formidable array of statistics. The statistics are of rather a singular character. The writer draws a comparison between the manufacturing districts of England and its agricultural districts, taking the former as representing civilized life, and the latter savage life. Of course, the assumption that an agricultural district in England fairly represents savage life is palpably false. The mental activity and the vices of civilization are both present in some measure even in the darkest and most secluded places of such a district. But, even allowing the truth of the assumption, Dr. Tuke entirely demolishes the conclusion of the writer in the *Review*. The writer, he shows, did not go far enough in his statistics, and so stopped short of the truth. He reasoned, as collectors of statistics often do, upon a partial view of the facts. He found that there was a larger number of *pauper* lunatics in the agricultural than in the manufacturing counties in proportion to the whole population. He then inferred that more persons become insane in the former than in the latter. This inference Dr. Tuke

shows to be false. He does it by giving a full view of the statistics bearing on the point, instead of the partial view of the writer in the *Review*. He proves one fact which shows up the fallacy of this writer's inference, viz., that the proportion of paupers to the whole population is greater in the agricultural counties than in the manufacturing. Of course, where there are the most paupers there will be the most pauper lunatics. This is the only reason that there are the most pauper lunatics in the agricultural counties. The facts do not touch at all the question as to the number of lunatics in proportion to the *whole* population. If we are to make the number of insane paupers a rule in estimating the prevalence of insanity in the community at large, we must find the proportion of pauper lunatics to the number of paupers, and not to the whole population, as the writer in the *Quarterly* did, and then make this the basis of an inference. Judging in this way, Dr. Tuke finds that the average proportion of pauper lunatics to the pauper population, per 1000, is in the agricultural counties 18.37, while in the manufacturing districts it is 26.40. This is as we should expect, for the excitements of business in a manufacturing community are much more conducive to insanity than the comparative evenness and quiet of agricultural life. And yet we have no right to infer that the proportion of insanity in the pauper population is in exact conformity with that of the community at large, though it is probably near it, for there cannot be any great difference in exposure to the causes of insanity between those who become paupers and the population around them.

Dr. Tuke is more cautious than the flippant writer in the *Quarterly Review* in adopting conclusions, and thus remarks on the question whether there are more lunatics among civilized nations than among the uncivilized:—

"Here, however, unfortunately, we are met by the absence of anything like reliable data upon which to proceed; for, however nearly we may be able to approximate to the numbers of the insane among ourselves, or in other civilized countries, there exists no parallel series of facts with which to compare them, among those nations which are in a state of barbarism. Nor can it, for one moment, be doubted, that the apparently greater extent of insanity among civilized nations (as well as the great apparent increase of insanity in recent times), is, in a great measure, satisfactorily explained by the obvious fact, that these, much more completely than barbarous nations, know of the existence of insane persons, and recognize mental disease as such. And there are various other reasons why uncivilized nations should appear to be less subject to insanity than is actually the case. Thus, weakly children, including imbeciles, would be generally neglected (except when regarded superstitiously), and among some nations (as the Esquimaux) put to death. The same remark attaches to the aged, who, on this account, rarely afford examples of superannuation."

He adduces, however, a great variety of testimony in proof of an affirmative answer to the above question, although the relative proportion of the insane in civilized and barbarous countries cannot be ascertained with any accuracy, and the statistics usually adduced for this purpose must be taken with many grains of allowance.

The fourth chapter, which is on the "Amelioration of the Condition of the Insane in Modern Times, especially in regard to Mechanical Restraints," is one of intense interest—painful in the extreme if we look only at the past, but exceedingly gratifying if we look at the present, and anticipate the future. Up to the year 1792, the insane were treated almost universally like wild beasts. That year was an era in the treatment of the insane, ever to be remembered with joy and gratitude; for it was then that Pinel struck off the chains of fifty-three patients confined in the Bicêtre, the results showing at

once that the then common notion that chains were necessary to restrain the insane from violence was unfounded. But the progress of the reform thus begun was, as is the case with all other reforms, very slow. In 1815, twenty-three years after the grand experiment of Pinel, a committee was appointed by the House of Commons to investigate the condition of the insane in asylums, or mad-houses, as they were then called, and some of the developments were of the most astounding character.

We can hardly believe at this day that asylums for the insane exhibited such sad scenes as are described in the following quotation made by Dr. Tuke from a book entitled, *What Asylums were, are, and ought to be,* by Dr. W. A. F. Browne:—

"Let us pass a few minutes in an asylum, as formerly regulated; and, from the impression made by so brief a visit, let us judge of the effects which years or a lifetime, spent amid such scenes, was calculated to produce. The building was gloomy, placed in some low, confined situation; without windows to the front, every chink barred and grated—a perfect gaol. As you enter, a creak of bolts, and the clank of chains, are scarcely distinguishable amid the wild chorus of shrieks and sobs which issue from every apartment. The passages are narrow, dark, damp, exhale a noxious effluvia, and are provided with a door at every two or three yards. Your conductor has the head and visage of a Carib; carries (fit accompaniment) a whip and a bunch of keys, and speaks in harsh monosyllables. The first common room you examine—measuring twelve feet long by seven wide, with a window which does not open—is perhaps for females. Ten of them, with no other covering than a rag round the waist, are chained to the wall, loathsome and hideous; but, when addressed, evidently retaining some of the intelligence, and much of the feeling which, in other days, ennobled their nature. In shame or sorrow, one of them perhaps utters a cry; a blow, which brings the blood from the temple, the tear from the eye—an additional chain, a gag, and indecent or contemptuous expression, produces silence. And if you ask where these creatures sleep, you are led to a kennel eight feet square, with an unglazed air-hole eight inches in diameter; in this, you are told, five women sleep. The floor is covered, the walls bedaubed, with filth and excrement; no bedding but wet decayed straw is allowed; and the stench is so insupportable, that you turn away and hasten from the scene."

Even as late as the year 1844, there were some asylums in England to which this description would almost literally apply. No wonder that one, who had been taken from one of these dens of torture and filth to a well ordered retreat, when asked by one of his friends what he called the place where he now was, replied, with great earnestness, "Eden, Eden, Eden!"

We would like to dwell here upon the non-restraint system now so generally introduced, noticing some of its necessary limitations, but we must hasten on.

The fifth chapter treats "of the Definition of Insanity, and of Classification." Dr. Tuke cites many different definitions of insanity, which are all unsatisfactory, and he very justly remarks that—

"It is not in any definition of mental derangement that the student will learn what insanity really is." He also says, that "whatever definition of insanity is adopted by the student, it is all-important that he should regard *disease* as an essential condition; in other words, that insanity is a condition in which the intellectual faculties, or the moral sentiments, or the animal propensities—any or all of them—have their free action destroyed by disease, whether congenital or acquired."

Our author has struck here upon the grand point of distinction between insanity and those mental conditions which are so often confounded with it. Insanity is a disease—a corporeal disease. It cannot be predicated of mind

alone; and the expression, mental disease, though a very convenient one, is not strictly correct. The mental symptoms of insanity do not result from the mind alone, but from the action of the diseased organization upon the mind. If this simple view of what is essential in insanity be kept in mind, it will aid us often in diagnosis. In all doubtful cases let the question come distinctly before us, whether the mental manifestations are the product of disease, of bodily disease, or are the result of cherished propensities or passions, or mental habits, producing only incidental effects upon the brain and nervous system, and not dependent at all upon any actual disease there. The question, we are aware, is often of difficult solution, and the evidence upon which it is to be decided is generally not of that palpable character which we have in ordinary disease. Still it is *the* question which we are really to decide, and the more definitely we have it before the mind the less apt shall we be to err.

All attempts to subject the different forms of insanity to a strict classification have utterly failed. It is impossible to make any thorough and systematic classification of diseases generally, for the simple reason that disease is in itself an irregularity. The most that can be done is to arrange them in groups according to their resemblances. The difficulty of classifying, even in this loose way, the diseases included under the term insanity is very great. We can only take some prominent salient points seen in cases that are well defined; and then we shall, of course, find that there are many cases which we cannot include strictly under any of the terms that we adopt. We can only approximate to the truth in giving a name to the form of insanity in such cases.

Dr. Tuke gives us rather an extended classification, but he remarks in regard to it—

"We should, however, only employ these divisions as a chart by which we might shape our course for something like firm land, without allowing ourselves to be lost in the metaphysician's 'ocean of doubts.' They are after all only the points and headlands of a recently discovered coast, which navigators have but partially delineated."

It would seem from this, and some other things said in this chapter, that Dr. Tuke anticipates something better in the way of classification from future discoveries. But we think that there is little reason for such anticipations. There are inherent difficulties which no amount of discovery can wholly remove. Even if we could "determine with certainty the fundamental, radical, faculties of the mind," we do not believe with our author that we could "hope to possess a detailed and systematic nomenclature." If it were mind alone that is affected in insanity this would be a rational hope; but as the disease is one of the organization, manifesting itself through the mind, no such thorough classification can come from any supposable amount of knowledge of the mental faculties. Still, we have no doubt that improvements are to be made in the nomenclature of insanity, and much of the confusion of ideas which even now, with all our advance on this subject, is often attached to the terms employed, will be done away.

The next chapter is a long one, and treats very fully of the various forms of insanity. Although it is so interesting, we shall only notice very briefly what is said in regard to emotional or moral insanity. On the existence of this form of insanity Dr. Ray, as quoted by our author, says:—

"It will not be denied that the propensities and sentiments are also integral portions of our mental constitution; and no enlightened physiologist can doubt that their manifestations are dependent on the cerebral organism. Here, then,

we have the only essential condition of insanity—a material structure connected with mental manifestations; and until it is satisfactorily proved that this structure enjoys a perfect immunity from morbid action, we are bound to believe that it is liable to disease; and, consequently, that the affective as well as the intellectual faculties are subject to derangement."

Accordingly we find that there are some cases of insanity in which there is not the slightest trace of any derangement of the intellect. Thus we meet with persons afflicted with melancholia who reason as well as they ever did, and have no hallucinations or delusions. Their insanity is as real as it is in others who, with the same melancholy, have the intellect more or less affected. In both classes of cases the organization is diseased; but the mental manifestations are different; in the one class the affective faculties being the medium of these manifestations, and in the other both the affective and the intellectual.

But not only may insanity be confined in its manifestations to the affective faculties, but it may also be confined to those propensities which are common to man and to the lower animals. But here we are treading on dangerous ground. Not only do we encounter here the prejudices of the community, who for the most part cannot understand how insanity can exist, leaving the intellect intact; but, on the other hand, there is great danger that real crime may be mistaken for an act of insanity, and thus may escape punishment. The very fact that a mistake of an opposite character has often been made, and irresponsible acts have been visited with the penalties due to crime, has a tendency, perhaps, to make us too ready to suppose insanity. At all events, there should be the most careful and pains-taking discrimination exercised in all doubtful cases, so that society may be properly protected, and at the same time the sad mistake of punishing an innocent insane man as a criminal may be avoided. Above all, we protest against that looseness of view indulged by some on this subject, which comes so near to ignoring the fact of human responsibility, and almost obliterates the distinctions between virtue and vice. The ultra ground which some physicians have taken in their testimony in courts of justice, has so shocked the prejudices of the community, or rather has so offended their moral sense, that they are led to look with suspicion on all medical testimony in proof of insanity, and so are prevented from readily accepting what is true on the subject. In this way science, falsely so called, may hinder the advance both of true science and humanity.

In the chapter on the causes of insanity we have quite extensive and valuable comments on statistics. Some of the fallacies to which the inferences from them are liable are brought to view.

"Thus if," says Dr. Tuke, "we take the number of clergymen and lawyers admitted at Bethlem Hospital during a certain period, we find them equal; and the inference might be drawn that they were equally liable to mental disease. The following table enables us to show the fallacy of such a conclusion. From this it appears that lawyers are about doubly liable (as might have been anticipated) to this disorder."

The table referred to includes in its calculations 10,000 lunatics. It does not give simply the number of insane furnished from different occupations. This would not show at all the comparative influence of these occupations in producing insanity. Suppose, for example, that, as in the case of the Bethlem Hospital, the number of insane from the legal profession was the same as from the clerical. But suppose, also, that the number of lawyers in the community was only half as great as the number of clergymen. Then plainly the inference must be that lawyers are twice as liable to insanity as clergymen are. The same can be said of comparisons between other occupations. Ac-

cordingly, in order to make this table correct in reference to the point in hand, the proportion given in relation to each occupation is that of the insane furnished from it to the whole number of persons engaged in the same occupation in England and Wales, and not to the 10,000 lunatics in their asylums.

The statistics of retreats have been very commonly appealed to as showing that males are more liable to insanity than females. But we think this very doubtful evidence. We apprehend that it would be found, on investigation, that there are more female insane persons taken care of at their homes than there are of the male insane. At any rate, the only satisfactory way of settling this question is to ascertain the numbers of both sexes that are insane in the community, both in and out of the asylums.

Some interesting conclusions are drawn from the statistics of one asylum in regard to the relative influence upon the sexes of certain prominent causes of insanity. They are given in the order of their frequency in each sex. The order is thus among males: 1. Abuse of alcoholic drinks; 2. Reverse of fortune; 3. Domestic troubles; 4. Loss of friends. The order is quite different among females: 1. Domestic troubles; 2. Loss of friends; 3. Reverse of fortune; 4. Abuse of alcoholic drinks.

We dismiss this subject of the statistics of insanity with the remark, that great caution is called for in making inferences from them, and that we are especially suspicious of the showing of all tables that favour strongly any cherished opinions of the framers of them. Statistics designed to show the great success of any asylum by a large percentage of recovery, and a small percentage of mortality, we consider of no value, knowing how easily adroit management in regulating admissions and discharges, and false representations of the actual condition of patients (made, perhaps, without a definite design), may secure a much better report than an asylum may be justly entitled to.

We come now to that part of the work which was written by Dr. Bucknill, and which is by far the most valuable portion of it, partly because it has a more practical character, and partly because it is more thorough and clear in its discriminations. He treats of three very important subjects: the diagnosis, the pathology, and the treatment of insanity.

He opens the subject of his first chapter (the eighth of the book) in this impressive manner:—

"No class of diseases with which man is afflicted are so various in their manifestations as those known under the general term of insanity. No diseases present such an infinite variety of light and shade belonging to their own nature, or to their intermixture with other maladies, or to the influence of temperament, of individual peculiarities of habit, or of social position; and, therefore, the diagnosis of no other class of diseases taxes nearly so much the ingenuity and the patience of the physician. The diagnosis of almost all other diseases depends principally upon weighing the evidence afforded by physical signs and symptoms, upon evidence addressed to the senses; but in mental disease, it is, for the most part, dependent upon evidence which is cognizable by the intellect alone, and upon data which the senses furnish to us only at second hand. The physician is compelled to bring to this investigation, not only a knowledge of those functions which are subservient to the vegetative and animal life of the individual, but also a clear and analytical conception of those which collectively constitute mind. He must not only be a physician, but a metaphysician; not, indeed, in the almost opprobrious sense of this term, but in that better sense which designates a lover of truth, seeking to ascertain, not the essence of mind or any other unattainable abstraction, but the laws of mind, which are as regular as any other natural laws, and the knowledge of which offers to philosophy a wholesome and legitimate object of research."

After stating in a very clear manner some of the difficulties which often

attend the investigation of the question whether an individual is insane, he proceeds to notice quite fully some of the elements which enter into the diagnosis. In his consideration of the change of habits and disposition in the insane occurs this passage:—

"There is a latent devil in the heart of the best of men; and when the restraints of religious feeling, of prudence and self-esteem, are weakened or removed by the operation of mental disease, the fiend breaks loose, and the whole character of the man seems to undergo a sudden and complete transformation. Every medical man has observed the extraordinary amount of obscenity, in thought and language, which breaks forth from the most modest and well-nurtured woman under the influence of puerperal mania; and although it may be courteous and politic to join in the wonder of those around, that such impurities could ever enter such a mind, and while he repudiates Pope's slander, that "every woman is at heart a rake," he will nevertheless acknowledge, that religious and moral principles alone give strength to the female mind; and that, when these are weakened or removed by disease, the subterranean fires become active, and the crater gives forth smoke and flame."

While there is much truth in this, there are certainly some reservations to be made in regard to it; or, at least, the statement is so incautious, that some inferences are liable to be made from it which are false. The manifestations of insanity are often, it is true, more or less indicative of the lurking devil in the character, but they are never to be taken as the exact measure either of the evil qualities of the individual, or the strength of his propensities; and they are often, we are sure, totally inconsistent with both. We do not believe that they always come from "subterranean fires" previously restrained from bursting forth by "religious and moral principles." We believe that their character is often given to them by some purely incidental circumstances, and so far as they are so, they fail to indicate what is attributed to them by our author.

Our author's remarks on the physiognomy of insanity are exceedingly interesting, and his descriptions are very graphic. We will give but a single specimen.

"In a greater number of cases, however, a remarkable peculiarity is observable in the physiognomy of the insane; this exists in a want of accord in the expression of the different features. This is often remarkable and characteristic, and reminds one of those children's toys, in which the upper and lower halves of painted figures are separable, and capable of being joined in fantastic reunion. Thus, the lower face of an alderman may be added to the upper face of a handsome woman; and upon the simpering mouth of the latter may be superadded the stern brows of a soldier. The effects produced by this amusing toy are only exaggerations of what may be observed in the insane. The expression of mouth often gives the lie to that of the eye and the brow; and while the whole features are full of expression, it is often impossible to designate truly that which is expressed. This is, perhaps of all, the most characteristic peculiarity of insane physiognomy, because it is only observed among the insane. It is, however, frequently absent in them; and the patients in whom this peculiarity is strongly marked, are probably less numerous than those in whom it is absent. Its presence, therefore, as a symptom of insanity is of considerable value; while but little weight can be attached to its absence.

Every one much conversant with the insane, must recognize the truth of the following remark:—

"Altogether, the effect of mania, and, indeed, of all forms of insanity, is to stamp upon the patient a remarkable degree of ugliness; and there is no symptom of returning mental health more trustworthy and more pleasing than the restoration of personal beauty. Among the female patients of large lunatic

asylums, not a single good-looking woman is often to be seen, except those who are convalescent, or those who are enjoying a prolonged interval of tranquillity and amelioration."

We doubt whether Dr. Bucknill is correct in laying so much stress upon the "shrivelled ear" so common in insanity. He says of it that it "tells an undeniable tale of profound mental disease." Certainly other chronic diseases besides those which are mental often have this symptom. All that is needed to produce it is emaciation with a dry, harsh skin.

The remarks of our author on the distinctions between insanity and eccentricity are very discriminating, and we only regret that they are not more extended.

On the subject of monomania, Dr. Bucknill says that it is not a disease implicating a single *faculty* of the mind, but insanity on a single subject, while many of the faculties may be affected. He is very happy in his illustration of the distinction between the monomaniac and those who hold absurd opinions on religious and other subjects.

"The difference between a Mormonite, a Princeite, a clairvoyant or a table-rapper and a true monomaniac, depends upon this, that in the former the absurd opinion is the natural consequence of ignorance and inaptitude to apply rightly the faculties of observation and judgment; in the latter, it is one of a train of symptoms of a pathological condition of the brain, and is consequent upon the well-known causes of such a condition."

Though the diagnosis is not always easy, the simple view of the grounds of it just given will help materially to decide the question. It is to be remarked, however, that there are many cases where the evidence is so confused and discrepant, that it is exceedingly difficult, sometimes impossible, to come to a settled decision, and farther developments in the progress of the case must be waited for.

Moral insanity we have already remarked upon in another part of this article. We regret that Dr. B. is not more full in regard to its diagnosis. After quoting the description which Prichard gives of it, he remarks:—

"It would appear from this that, perhaps, the only diagnostic symptom between mere vicious propensities and moral insanity is the mode of causation. Moral insanity is always preceded by an efficient cause of mental disease, and there has always been a notable change in the emotions and propensities following, and apparently consequent upon the operation of this cause."

The strict application of this rule of diagnosis would put to flight many of the loose notions of some physicians on this subject, and would expose the groundlessness of some testimony that has occasionally been given with much confidence in our courts of justice.

We would be glad to comment quite largely upon the contents of the chapter on the Pathology of Insanity, but our limits will not permit it. We can only touch upon a few of the many points presented to our view.

We are pleased to find that a point which we strongly urged in the first part of this article is also urged by Dr. Bucknill in this chapter, viz: the importance on the part of the physician of the insane of extending his view beyond the mental manifestations of insanity to those which occur in diseases generally—

"If he studies insanity alone," says our author, "he will be apt to fall into the common error of attributing its causation to some single pathological state, and his views will be as wrong as they are narrow."

The pathological conditions of the brain in insanity are various. Broussais

would have it that there is always inflammation, even in spite of the testimony of autopsies. In many cases there is congestion, especially at the beginning. The proof of this offered by our author is given under four heads:—

"First. By the exciting causes of many cases of insanity, which causes evidently tend to hyperæmia of the brain, and which in their more powerful operation frequently give rise to inflammation itself. Injuries to the brain, from blows, falls, or exposure to heat, if of a certain intensity, produce inflammation; if they be of a less intensity, in predisposed persons, they give rise to insanity. Repeated congestions of the brain from alcoholic drinks have a like effect. And finally, that frequent and unquestionable cause of congestion in all organs of the body, overwork of the organ itself, is a well-recognized and efficient cause of mental disease.

"Secondly. The symptoms attending many cases of insanity, are those of cerebral congestion. The forehead and vertex are hot, the face flushed, the conjunctiva injected, the carotid and temporal arteries beat strongly. Sometimes there is pain in the head; more commonly there is a sensation of weight and dulness. Moreover, the general system suffers from that imperfect and undeveloped state of pyrexia which accompanies active congestion of any important organ.

"Thirdly. Remedies which are efficient in the removal of congestion, are most beneficial in the early stages of many cases of insanity. Cold applied to the scalp by means of the ice-cap, cold lotions, or irrigations of cold water; leeches to the temples, and cupping to the nape of the neck; derivation to the intestinal canal by purgative medicines, or to the skin by warm baths; produce the most marked benefit in the early stages of mania, arising from the causes and accompanied by the symptoms above stated.

"Fourthly. When opportunities occur to examine the post-mortem appearances of such cases before they have become chronic, and have passed into the conditions of atrophic decay, the appearances are those of congestion of the pia-mater, with deepened colour of the convolutions; sometimes, but not always, accompanied by punctiform injection, or general pinkiness of the white substance of the cerebrum."

The proof cited under the last head is not often to be obtained, because patients so seldom die while this state continues, the brain passing commonly into a condition the opposite of congestion as the case goes on. The congestion, it is to be remarked, is never the essential cause of the insanity. It often is present, as every physician knows, without producing this disease. It may be one of its exciting causes, or it may be a mere accompaniment. The insanity depends essentially upon some change in the brain of which we know nothing, the microscope itself failing to reveal it to us. But as congestion always aggravates the disease when it is present, it is important that the physician should be able to discover the signs of its presence, that he may apply the proper remedies for its removal.

In many cases the opposite of congestion, anæmia, exists. But the most common condition of the brain found in examinations after death, especially in chronic cases, is that of shrinking, a state in which there is something more than anæmia—there is atrophy or "degraded nutrition." This results from a variety of causes, only one of which we will notice in passing—the want of sleep. It is because the period of sleep is the time especially for the nutrition or repair of the brain and nervous system, that the deprivation of it has often so much influence in producing insanity, and in so many cases proves so great an obstacle to its relief. In many cases it is not the absolute want of sleep that produces the effect, but the sleep is so disturbed with dreams that the repair of the brain cannot go quietly on. It is the unquiet state of the insane, depriving them of rest, and especially of the rest of sleep, that makes opium the most important of all the drugs that are used in the treatment of this dis-

ease. And we are glad to see that the evidence in regard to its efficacy is so fully brought out in the concluding chapter, which is on the treatment of insanity. The testimony of Dr. Pliny Earle, of this country, cited by Dr. Bucknill, is very decisive on this point.

In regard to the general subject of the treatment of insanity, we remark that there has been the same disposition to narrow and exclusive views that has so much marked the treatment of other diseases. There are favourite remedies and modes, having each its warm advocates. Formerly much reliance was placed on active medication; but now the tendency is to the other extreme. Some go so far as to maintain that drugs should be entirely discarded, and that the treatment should be wholly moral, as they term it, making the word, however, to include much more than rightly belongs to it. Thus a late writer in the *American Journal of Insanity* declares, that—

"He always acted upon the presumption that the patients needed no active treatment. The insane hospital is to the insane what the splint and bandage are to the fractured limb—merely to insure quiet."

To this Dr. Bucknill, who, we are glad to find, takes wide and discriminating views, and is truly an eclectic practitioner, very justly replies:—

"But insanity is not quite like a broken limb, and the processes by which recovery takes place are more complicated than the mere growth of new bone. Quietness is all that is needed to set a broken bone, because it is known that with quiet the pathological processes are certain to be reparative; but it is not always so in brain diseases."

We are free to say, that an exclusively moral treatment must be better in its general results than the once popular active medicinal treatment. But a treatment mostly moral, but medicinal so far as the symptoms distinctly call for it, is better still.

We are persuaded that bleeding, and especially local bleeding, is at present too little used in the treatment of insanity, as well as in that of other diseases. The remarks of Dr. Bucknill on this point are so good that we must quote them.

"We have never used the lancet in the treatment of insanity, but we must admit that cases do present themselves in which we have felt it our imperative duty to use leeches to the temples and cupping to the nape of the neck, to such an extent that the effect on the general system would not be much less than that of a moderate bleeding. One ought always to be suspicious of a universal general rule, and more especially so when it has been adopted in opposition to a previous rule of the same character. It is very easy to save ourselves the trouble of thinking, by giving in our adhesion to a dogma; and the man who, at the present time, is most ready to affirm, with inflexible pertinacity, that in no possible case of insanity is it right to bleed, would, had he lived seventy years ago, have been the man most likely to affirm that no case of insanity can be rightly treated without such bleeding. This, however, is not the spirit of philosophy, or even the courage of good sense which has the will and hardihood to think for itself. Men love to run into extremes; but when most in extremes, let us remember, that they are never altogether right, and never altogether wrong. It is probable, therefore, that although our forefathers were wrong in their abuse of the lancet, we are not altogether right in looking upon it as *taboo*."

We have seldom met with a collection of so judicious views of the treatment of disease as are in this chapter presented of the treatment of insanity, and we would commend them to the careful examination of the profession, not only from their value in their special bearing on this disease, but also on account

of their development of the true principles of the treatment of diseases generally.

Before concluding this article, we will touch upon one subject which we deem to be of great importance. It is the manner in which the question of an individual's sanity is often investigated in connection with criminal trials. It is commonly done in this way. Experts are called into court by the counsel on the one side or the other, or both, to testify at the time of the trial. This may be preceded by visits made to the prisoner by some of them. The objections to this are twofold—first, that if the case be at all a difficult one, the investigation is inadequate, all the data for the decision of the question not being gathered; and second, that the investigator is made, in spite often of the determination not to be, more or less a partisan for the side of the case on which he is called.

A case occurred some little time ago in New Haven which so well illustrates these points that we will briefly cite it. Willard Clark, the keeper of a grocery, became engaged to a young lady, who, after a time, dismissed him, and transferred her affections to a Mr. Wight, whom she married. In April, 1856, Clark went to the house where Wight lived, and shot him in the presence of the family, and then deliberately walked back to his shop. When the officer came for him, he, without compulsion, accompanied him to the jail. Nearly three months after the homicide, at the request of the lawyer engaged for his defence, Drs. Earle and Butler made Clark each two visits. They found him, as they thought, the subject of certain insane delusions, viz: that Mrs. Wight really loved him rather than her husband; that Wight married her for the purpose of ruining her, and that his (Clark's) mission was to destroy Wight in order to save her from destruction. Drs. Knight and Jewett were requested by the attorney for the State to visit Clark. Dr. Jewett attempted to have some conversation with him, but he refused to say anything to him unless his counsel should consent. The counsel did not consent, and so Drs. Knight and Jewett had no conversation with the prisoner. The attorney also wrote to Dr. Butler, asking him to visit Clark, and to give him his opinion in regard to his sanity. He briefly replied that he had visited Clark at the request of his counsel, and that he should be present at the trial. So the investigation of the mental condition of the prisoner was kept, so far as it could be, exclusively in the hands of the defence.

The trial came on in September. Drs. Butler, Earle, and Ray, were present, took notes of the testimony, and then testified upon the data thus gathered in addition to those obtained by Drs. Earle and Butler in their visits to the prisoner. Their opinion was, unequivocally, that he was insane, and, being acquitted on this ground, he has remained in prison ever since, simply as an unsafe person. And yet, notwithstanding this opinion and the verdict, we say that his insanity *was not proved at that time, and has not been proved to this day.* Dr. Ray confidently expected that his insanity would become palpable to all, and Dr. Butler predicted that he would be a raving maniac within a year. But two years have transpired, and Clark remains, so far as we learn, exactly the same.

The grand defect in the evidence of his insanity, as presented at the trial, was in the fact that during the three months immediately after the homicide there was not a lisp of these insane delusions of which Drs. Earle and Butler found him the victim. On the other hand, nearly all that he did say during that time, which appears in the testimony, indicated that he was governed by revenge. If these delusions had been present all this time, would he not have given vent to them from the outset, instead of reserving them three long

months for the ear of Drs. Butler and Earle? Is there not some reason to suspect that they were trumped up for the occasion by the prisoner, and that the doctors were cheated? There is certainly enough ground for such a suspicion to leave us in doubt about the case, and to warrant the assertion that the question whether Clark is an insane man is wholly undecided.

The investigation of this question was not a thorough one. It was not such as should satisfy scientific men. The three months' gap in the evidence stretches over a period of the utmost importance in the investigation. Then, if at any time, when the homicide was a fresh event, and there had been no conference on the part of Clark with counsel, could his mental condition be ascertained. But a delay of three months gave him ample time to hit upon a plan for simulating insanity. Most persons, it is true, fail in such attempts; but that success is impossible cannot be asserted, and we can easily see how a man of Clark's mental character could, under the circumstances, succeed.

The difficulty in this case would have been avoided if the French plan of a commission of lunacy were in use in this country. Such a commission, appointed by the government, and acting wholly independently of either side of the case, would be unbiassed in their investigations. Moreover, as they would in every case begin their observations at once, there would be no such loss of the golden opportunity for observation as there was in the case that we have narrated. The investigations prosecuted by this commission in some cases in France are of the most rigid and varied character. If the case be at all doubtful, every possible test is applied; and full notes are taken as the investigation proceeds. Upon these notes the commission make their report under oath. These reports are esteemed by scientific men as of great value, and the conclusions at which the commission arrived are acquiesced in by the community. There is none of the feeling which so often exists in this country, that the question of insanity has not been fully and fairly investigated. We hope that soon the plan will be adopted among us, as the security of society and the interests of humanity and science demand it.

There are some other points in the legal relations of insanity which we would like to remark upon in connection with this subject, but it would make this article too long. W. H.

Art. XV.—*Clinical Lectures on the Principles and Practice of Medicine.* By John Hughes Bennett, M. D., F. R. S. E., Professor of the Institutes of Medicine, and Senior Professor of Clinical Medicine in the University of Edinburgh. Second edition, New York, Samuel S. and W. Wood, 1858; pp. 951, 8vo.

Some of the views and opinions set forth prominently in this second edition of Dr. Bennett's lectures, have given rise to much controversy and discussion. The epithet original may well be applied to our author; and, whilst we give him credit for being an original observer, we must commend his diligence in finding out and displaying to his readers the researches and results of those actively engaged in scientific labours, in Germany and France as well as in England and our own country. In a notice of the book published in Glasgow, he was especially and justly commended for making his countrymen acquainted with the labors of German pathologists. And, indeed, the value of the volume is in the collection of the newest results and opinions of the most active, suc-

cessful, and trustworthy scientific men of all countries. At the commencement of the third section we are told—

"In the previous two sections I have endeavoured to give a condensed account of the present state of diagnosis, and of the pathology of organic diseases. A practical knowledge of the one, and a better appreciation of the other, it seems to me, have been very widely diffused within the last fifteen years. In consequence, a change, almost amounting to a complete revolution in our treatment of disease, has, within that short period, taken place. It is true that this change is not yet reflected in our systematic works, although clinically it is everywhere recognized. For when we compare what the actual practice of medicine is, with what it was, or with what it is represented to be, even in modern books on the theory and practice of medicine, the discrepancy must strike even the least observant. It seems to me that the time has now arrived for calling the attention of the profession, and more especially of its youthful members, to the causes producing so important a result, and pointing out some of those principles on which an improved medical art for the future is likely to be based."

Dr. Bennett commences with some remarks on the relation of the science to the art of medicine. He considers the remarks of Cullen, "that the truly judicious practitioners and good observers are such as have the most extensive views of the animal economy, and know best the true account of the present state of theory, and therefore know best where to stop in the application of it," as even more applicable now than when they were written. At the same time, he admits that medicine still belongs to the inexact sciences; it still possesses no primitive fact, though it be possible that it may do so at some future time. Several pages are next devoted to the means of exploration, and here we find are valuable illustrations, enabling the student to understand the use and application of the pleximeter, the stethoscope, and the microscope. The use of chemical tests is set forth briefly, and then our author brings forward what he has to say on the principles of medicine. His remarks on the nosologies of early writers are very true. He very properly calls attention to the difficulties from the use of terms introduced when symptoms were regarded as constituting disease, at the present period, when we are learning so much of the intimate structure of the various organs of the body, and regarding disease as a derangement or disorder of some part or organ.

"In endeavouring to carry out this distinction, however, modern physicians have fallen into a great error, inasmuch as they have continued to employ the nomenclature of our forefathers, and use words which were simply expressive of symptoms, to indicate the altered condition of organs, the cause of those symptoms. Formerly, inflammation meant the existence of pain, heat, redness and swelling; it now means certain changes in the nervous, vascular, and parenchymatous tissues of a part. Formerly, apoplexy meant sudden unconsciousness originating in the brain; now it is frequently used to express hemorrhage into an organ; and, hence the terms apoplexy of the lungs and of the spinal cord. The two ideas are essentially distinct, and bear no reference to each other, because the same word may be, and often is employed under circumstances where its original meaning is altogether inapplicable. Hence it is incumbent on every one who gives to organic changes words which have been long employed in medicine, to define exactly what he means by them. In this way, old indefinite expressions, though still retained, have a more precise meaning attached to them. If, for instance, it be asserted that bleeding cuts short an inflammation, let us understand what is cut short; the symptoms, the physical signs, a congestion of the vessels, or an exudation of the liquor sanguinis."

Our author now dwells on the general laws of nutrition and innervation in health and disease. He tells us that—

"The various modes in which nutrition becomes impaired, and the blood diseased, can only be understood by passing in review the different steps of the nutritive process. We have already pointed out how pathology and practical medicine must be based upon anatomy and physiology, and there is no one subject, perhaps, which is so well capable of illustrating the proposition, as the one we are about to consider. For ages medical men have been in the habit of considering the blood to be the primary source of numerous maladies. It will be our endeavour to show by an analysis of the process of nutrition, that the changes of the blood, and the diseases which accompany them, are, for the most part, not primary but secondary; that is to say, they are dependent on previously existing circumstances, to the removal of which the medical practitioner must look for the means of curing his patient."

We soon come to an account of inflammation, which is thus introduced:—

"Not unfrequently this attractive and selective power in the tissues is deranged, producing increase or diminution in growth or secretion, general or partial. Not unfrequently the selective power appears to be lost, and the attractive power so much increased, that the liquor sanguinis is drawn out through the vessels, so that its fibrin coagulates in a mass outside them. This result, preceded or accompanied by certain changes in the vessels themselves, and more or less stagnation of the current of blood, constitutes the phenomena hitherto described as *inflammation*. Under these circumstances, other cells and tissues, altogether foreign to the healthy condition of the economy, are produced by what is now called the exudation, although the same general laws of growth and transformation preside over the abnormal as over the normal products. In this manner pus and cancer cells may be formed, or fibrous, cartilaginous, osseous, and other tissues, causing different kinds of morbid growth."

This word exudation is preferred by Dr. Bennett to inflammation. He quotes Andral's remarks: "Created in the infancy of science, the expression inflammation, altogether metaphorical, was destined to represent a morbid state, in which the parts appeared to burn—to be inflamed. Received into general language without any precise idea having ever been attached to it, in the triple relation of symptoms which announce it, of the lesions which characterize it, and of its intimate nature, the expression inflammation is become so very vague, its interpretation is so very arbitrary, that it has really lost its value; it is like an old coin without an impression, which ought to be removed from circulation, as it only causes error and confusion." Dr. Bennett claims for the new term exudation of the liquor sanguinis that it is a demonstrative fact and gives rise to a definite idea. Hence he would substitute for all scientific and practical purposes the expression exudation for that of inflammation.

Words used for centuries are not easily to be laid aside and new ones substituted, without commotion. The controversy in this case has arisen with regard to the application, to the carrying out of the idea. The disease inflammation was treated antiphlogistically. The blood being circulated more rapidly, being unduly determined to a part, to take blood from the system was a very natural conclusion. But, exudation does not suggest venesection, leeches or cupping. The exuded matter is not to be removed artificially, but, by the appropriate organs of the body, which must not be weakened by the loss of blood, but must be stimulated to greater activity, and well nourished to be able to sustain the increased efforts. Dr. Bennett brings out strongly the fact of the disuse of bloodletting which has taken place within the last twenty years. All admit a very great change in the treatment of what were and are still known as inflammatory diseases. The question is, have these diseases changed their type; are our bodies and constitutions different from what they were twenty years ago? are we living under different influences,

modifying the processes of nutrition and innervation, so that when we are diseased we may not be subjected to the same treatment. All our early writers have dwelt upon epidemic influences to be considered in treatment, have pointed out peculiarities of time and season as modifying disease, so that the same disease must be treated differently at different times. We may begin with Hippocrates, and trace in the writings of the distinguished authors who have been consulted and followed in all subsequent periods, the enunciation of a fact of observation of the variations of disease, even in the same locality, at different seasons. Now, it seems to us that Dr. Bennett does not sufficiently recognize this truth. The word inflammation may be more purely conventional, and tell no story of the nature of what it designates. But, neither are all processes set forth in the word exudation, which Dr. Bennett would include under the term. We are still far from understanding so completely the morbid processes included under the terms exudation and inflammation, and we cannot decide by a process of reasoning as to the efficacy of different modes of treatment. We cannot prove in this way that inflammation may not be properly treated by bleeding. We must still learn by experiment, and we have no right to condemn totally the practice of our predecessors in treating by general and local bleeding what they called inflammation. Atmospheric or telluric causes of disease are still to a great degree unknown, but we do find and can appreciate changes in modes of life, which must act upon the human constitution, and influence its susceptibility to the causes of disease, which must produce variations in the history and symptoms of disease. For instance, it is admitted by all that we are living much faster. We move over the earth at the rate of thirty or forty miles an hour; intelligence is being conveyed to us from all parts of the earth with a wonderful rapidity, and the lightning messenger is sometimes charged with deadly news. There is everything to stimulate our nervous systems. Population is being concentrated in cities, competition is greater in professions and trades, fortunes are lost and won with a rapidity before unknown, and civilization calls for a great expenditure of nervous power. There is a disuse of the manly games, of the trials of strength in leaping, wrestling, throwing the bar, in which our ancestors, particularly those living in the country, delighted; recreation is now sought in crowded assemblies or lecture rooms. More are occupied in indoor pursuits. Luxury with its enervating influence is spreading widely. In our own country we are building houses for warmth, smaller and tighter than those of our ancestors, where for several months of the year we are subjected to air heated and burnt by passing over hot iron. The open fireplaces, and the generous wood fires, are fast disappearing. Now all these changes must have a great effect on nutrition and innervation. Muscular exercise in the open air, a quiet, regular life free from excitement, are certainly most favourable circumstances for the formation of a well purified, abundant blood, and for the activity of all the processes of nutrition. We are speaking of causes more efficient in our own country, but which are to a greater or less extent operative in all civilized lands. Our free institutions must be carried on with great expense of nervous power. Agitating political questions are constantly before the minds of the people. By frequent elections the honours and emoluments of office are brought within the reach of, and excite hopes and fears in a very large class of the community. By the growth of large cities, physical causes, in a diminished supply of fresh air, in a less perfect removal of, and a greater exposure to, the excrements and exhalations of the human body, are more widely at work to diminish the vigour of the constitution. We must admit, too, that in the government of our large

cities there are corrupting influences on morals, which must react on the physical nature. We are hearing a great deal of the river Thames, and of the poisonous exhalations from it; we hear a great deal of the corruption and mismanagement of the municipal government of the city of New York, and we may be sure that deteriorating influences, more easily recognizable in those large cities, are, to some extent at any rate, active in the smaller towns scattered through the length and breadth of our own country, of Great Britain and of France, and, perhaps, to a less extent, of the other European countries. The rapidly increasing population of London and Paris, and generally of large cities, the decrease of the rural population, are phenomena of our own time which are exercising influences over nutrition and innervation. At the same time that population is being more concentrated, and that the nervous system is more stimulated, that there is less of out-door life, there is less exposure of many to atmospherical vicissitudes. More attention is paid to the hygiene of cities. The comforts, as well as the luxuries of life are being more widely diffused. Have we any right to say that these important changes in circumstances and conditions have no modifying influences on the processes of inflammation. The traveller who arrives in this country from England remarks at once the absence of the ruddy, full face to which he has been accustomed, and notes the pale, sallow, and care-marked countenance, the more rapid step, the greater devotion to business. It has been said that the production per head is greater in America than in any other country, and this can be brought about only by the expenditure of nervous force. At the same time, too, the material for nutrition abounds, but the nervous power needed to assimilate the aliments is spent in thinking, fretting, or slaving. Surely the great poet was not wrong in his physiology when he makes Cæsar to remark on Cassius that he has a lean and hungry look, and thinks too much. These causes do modify nutrition and innervation; they must modify healthy—they must modify diseased processes; they must necessitate a modification of therapeutic influences; and they are characteristic not solely of our country, but of our age. And we must not entirely set aside atmospheric and telluric phenomena, but must acknowledge an influence on the economy in health and disease which we are far from fully appreciating or understanding. We cannot, then, coincide with Dr. Bennett in attributing the disuse of bleeding solely to an improved pathology. We must allow the testimony of Dr. Alison and his supporters to a change of constitution, to a modification of disease, in virtue of which bleeding is less in repute than it was twenty years ago. At the same time that we recognize truth in what has been said by Dr. Alison and his supporters, we think great credit is due to Dr. Bennett for the great ability with which he has brought forward his propositions, and the valuable group of facts which he has collected in their support. We must admit that we are learning more of the nature of "inflammation," that we know better how to treat it. We are progressing in knowledge in the departments of pathology and therapeutics, though we are still far from a perfect comprehension of the many matters in those domains. It has been said even that therapeutics is suffering from a change of views in pathology, resulting from modern investigations and discoveries, which bring discredit on modes of treatment without pointing out better substitutes. We are still as it were in the twilight of knowledge, and our views are indistinct and uncertain. We sometimes see enough to make us afraid of remedial agents commended by what may be called an unreasoning experience, and yet when we try by reasoning to solve a therapeutical problem, our failures are signal and repeated. We may recognize in the word inflammation a purely conventional term, we must acknowledge that the ideas suggested by it are

erroneous, and have misled those who sought to carry them out in practice. We can no longer look upon bleeding as the sovereign remedy for such affections. We have statistics enough to prove that it is much less efficacious to arrest and control pneumonia or pericarditis than was formerly supposed; yet it seems to us that we must assign some agency to peculiarities of modes of life, of states of the soil, of the atmosphere in modifying the susceptibility of the economy to inflammation on the one hand, and to bleeding on the other; and here we must differ from Dr. Bennett. We can discover truth in what has been written by Dr. Alison of the changes of constitution, and, at the same time, we can admit the correctness of Dr. Bennett's conclusion, that the older practitioners were led to use venesection too freely by pathological views which modern discoveries have shown to be erroneous.

The chapter on The Morbid Growths of Texture is clearly written and well illustrated by plates, making it a valuable means of information to the student. Dr. Bennett says truly—

"That the exclusive study of morbid growths sometimes, as they affect internal, and at others external parts, has led to limited views of the subject. The surgical tendency, to speak of them as tumours, and to regard them in reference to the great practical question of excision, has interfered with the true pathological doctrine, namely, that however or wherever produced, they are essentially the same. No doubt they are very common in external parts, simply because all growth proceeds best on surfaces where there is room for expansion; but this accidental circumstance should not induce us to suppose that they are peculiarly surgical. In truth, their study belongs to pathology —that science which constitutes the basis of all branches of the medical art."

The classification of morbid growths has been found very difficult, and our author tells us that the hope has proved vain that, by studying the ultimate structure and mode of development of morbid growths, a new foundation for classification would be discovered. He thinks that structural elements may be reduced to six. 1st. Molecules and granules; 2d. Nuclei; 3d. Cells; 4th. Fibres; 5th. Tubes; and 6th. Crystals or irregular masses of mineral matters. He thinks that no combination of these elements will serve to characterize morbid growths, and he thinks the microscope destined to be of infinite importance in pathology and diagnosis by its aid in a careful investigation of the mode of arrangement of these elements; but to this must be joined a careful study of the clinical facts of each case. These growths, often containing several alimentary principles, chemistry cannot give a basis of classification.

"The best classification, therefore, is one founded on our knowledge of the compound textures of the growths themselves, assisted, as far as varieties are concerned, by their similitude to well known objects or accidental circumstances, which have long been received in pathology as standards of comparison."

Dr. Bennett objects to the terms innocent and malignant, as almost every kind of growth may be innocent in some cases and malignant in others; but he approves of names taken from the anatomical character, as fibroma, lipoma, epithelioma, or from resemblances to well known objects, as hygroma, atheroma, sarcoma. In remarks on the development of morbid growths, the manner of which is described as of three kinds, figures are shown, one from Kölliker, representing cell structures in the softened articular cartilage of man, and another by Redfern, showing similar formations in a cancerous exudation into the brain. In both, the mode of cell development is similar, the one having its origin in pre-existing articular cartilage-cells, and the other arising in the new cells of an exudation.

"In the cornea and epithelium, similar changes occur, as well as in the bones and mesenteric glands; yet these lesions, so closely allied in their essential nature, have, in these different textures, been called different names, and widely separated pathologically. In the non-vascular cornea and cartilage, it has been called inflammation, but in the equally non-vascular epithelium, it has been named cancer. Again, in the vascular bones and glands, it has received various names, such as osteo or medullary sarcoma, enlarged glands, etc., whilst in the brain and other localities, it has been called encephaloma, or soft cancer. It seems to me that in all these cases the lesion is the same, and that an advanced knowledge of their nature should lead us to group them together, calling some of them inflammation and others cancer; supposing the first to be innocent and the last malignant is, we contend, incorrect pathology. True pathology points out that all these lesions are equally destructive, in consequence of increased endogenous cell-growth, and practical experience has long determined the question of their all being alike difficult to control."

Before taking up diseases of the nervous system, Dr. Bennett devotes a few pages to a consideration of the influence of predominant ideas on the body. This is a very important matter, most interesting to the practising physician who would try to understand somewhat phenomena which are constantly under observation. Certain men have a power of gaining the confidence, of guiding the wills of their patients. They can effect cures and relieve pain in a manner apart from any successful diagnosis or skilful handling of drugs or other remedial agents. It is told of the coachman of a most successful practitioner that, in a conversation on the subject of his master's success, he said: "Why, the very sight of our carriage cures some people." Now, there are well informed, scientific physicians who, from the want of this power, are in small repute as practitioners, and whose reputation with their fellow-practitioners and with scientific men is widely different from that which is accorded them by the public. The success of charlatans, the cures worked by charms, amulets, and relics, the effect of the king's touch upon scrofula, the cures by Mesmer, by medical tractors, receive some explanation by a consideration of this agency of mind upon the body. Many of the phenomena of what is called animal magnetism, the power of putting others to sleep, of keeping them in a sort of trance, of directing and controlling them, must be acknowledged, and is hardly explained. Faith, belief must be acknowledged as very efficacious to work cures. And this power is not sufficiently appreciated by some scientific men; and those practitioners who possess and exercise it are denounced as charlatans. There are those who seem to think that, by extending knowledge by means of popular lectures and popular treatises on anatomy, physiology, and chemistry, the medical profession is going to put down quackery, and to increase its power over the public, and to produce a willing submission to it. But experience and observation do not justify any such expectations. Homœopathy, hydropathy, eclecticism, flourish by the side of a widely diffused popular knowledge. Nostrums and cure-alls are widely patronized by those who know enough to distrust regular physicians. Faith, submission, and obedience must be recognized as most favourable to the success of the art of healing, and no practising physician can afford to neglect any power he may have of gaining and keeping the confidence of his patients. This power may be used legitimately. It is often abused, but surely, on this account, it may not be despised. A conscience sensitive to the rights of others is needed in dispensing such powers; but because they are often possessed by those who do not resist the temptation of using them selfishly, we must not impugn their efficacy.

Our author offers a structural explanation in this connection which, from

its ingenuity, may be here repeated. After speaking of what has been called hypnotism by Mr. Braid, he goes on to say:—

"We have previously seen that the cerebral lobes contain white fibres, which run in three directions. 1st. Those which pass from below upwards and connect the hemispherical ganglion with the spinal cord; 2d. Those which pass transversely, forming the commissures, and which unite the two hemispheres; and 3d. Those which run from before backwards, uniting the anterior with the posterior lobes on each side. It has also been stated that these fibres are probably subservient to that combination of the mental faculties which characterizes thought. Now, all metaphysicians and physiologists are agreed that the mind is composed of various faculties, and that different parts of the nervous mass are necessary for their manifestation. True, it is by no means determined what or how many faculties mind should be divided into; still less is it known which parts of the brain are necessary for the manifestation of each. But let the first proposition be granted, then there is no difficulty in supposing that one or more of these may be paralyzed or suspended, while others are entire, any more than there is in knowing that sensation may be lost whilst motion remains intact, although the nerve fibres of both run side by side. I presume, then, that certain mental faculties are, as the result of exhausted attention, temporarily paralyzed or suspended, whilst others are rendered active in consequence of being stimulated by suggestive ideas; that the psychical stimuli of the former make no impressions on the cerebral conducting fibres, whilst those of the latter are increased in intensity; that the proper balance of the mind is thereby disturbed, and thus the individual, for the time being, acts and talks as if the predominant idea was a reality. The condition is analogous, so far, with ordinary somnambulism, certain forms of hypochondriasis, and monomania, but admits of infinite changes according to the nature of the idea suggested."

We should have preferred Dr. Bennett's alluding to the supernatural in this connection. We think that there is much in his remarks, as far as they go. He does not seem to us to pretend to understand and explain everything, but we should have liked a more distinct acknowledgment that "there are more things in heaven and earth than are dreamt of in *his* philosophy." We have no sympathy with the fanaticism of mesmerists and spiritualists. On the other hand, we cannot commend the attempts of some to explain away phenomena which may be unintelligible, and to set aside as false what is simply above and beyond their powers of comprehension. No truly religious man—whether he be Christian, Jew, or Mohammedan—can deny that men have been endowed with supernatural powers of healing, or that in visions of the night future events have been revealed. Our relations Godward should never be lost sight of. His infinite power and wisdom, human weakness and folly, are truths which should be well graven on the mind of the medical philosopher in his dealings with such mysteries as life and death, and we must express our fears that our profession and our science have suffered by a dim appreciation of the divine source of truth, which Van Helmont describes to us as revealed to himself only after much study and meditation. The infidelity of our day does not deny the existence of God, but refuses to acknowledge His agency—undertakes to understand and explain everything by general laws, and does not recognize a personal intervention in the affairs of men, nor the relation of each individual to a Creator and Father of infinite power and love, whose works and whose dealings must be studied with reverence and fear, and can never be fully understood by the frail and sinful creatures of a day.

Early in the section on diseases of the nervous system, we find some valuable remarks on the pathology of spinal and cerebral softenings, and on the necessity of employing the microscope to ascertain their nature. There

are six kinds of softening described; the first, exudative or inflammatory softening, always containing granules and granule-cells, and thus distinguishable from hemorrhagic, mechanical, and putrefactive softenings. There is often great difficulty in connecting morbid appearances found in the brain with the symptoms recorded during life, and any suggestions on such matters are valuable.

Dr. Bennett's classification of functional nervous disorders seems to us philosophical. He makes four divisions—those in which the cerebral lobes are affected, as insanity, apoplexy, trance; those in which the cranial and vertebral portions of the spinal cord are affected, as tetanus, chorea, hysteria; those in which both cerebral lobes and spinal cord are affected, as epilepsy and catalepsy; and fourthly, neural disorders, in which the nerves are affected during their course or at their extremities. The old division of nervous centres into brain and spinal marrow is not convenient, since the brain itself, or the nervous centre contained within the skull, is looked upon as a collection of nervous ganglia, each of which has its peculiar function. We have still a good deal to learn, but Dr. Bennett's division seems to us convenient at this stage of our knowledge.

The author's power of setting forth clearly and concisely what is generally known and received may be appreciated by reading the section on the Pathology and General Treatment of Phthisis Pulmonalis, as well as that on its special treatment. The connection between the science and art of medicine is well shown, as all discoveries made by the aid of the microscope, chemical analysis, physical exploration, are compared with what experience tells of the efficaciousness of certain medicinal agents, as well as of regimen and climate.

Dr. Bennett's pathological researches do not lead him to neglect therapeutics, nor to deny the efficaciousness of remedial agents. He tells us early in his work that medicine is not an exact science, and he sets before us much that may be true, but which cannot now be proved to be so. He endeavours to bring before his readers the means of appreciating the value of evidence. He does not neglect therapeutics because its results proceed from experiment more than from reasoning. The school of Vienna, as well as that of Paris, has been reproached with a neglect of studying how to cure disease, whilst its students have been so active and so successful in pointing out how to distinguish and recognize it. Our author shows an intimate acquaintance with the researches of these inquirers, and, at the same time, gives due prominence to the practical question of therapeutic means and remedial agents which are so much more dwelt upon in the writings of his own countrymen than in the treatises of continental authors.

We are glad to find him, in pleasing contrast to a distinguished writer of our own country, not fettered or restricted by the old boundaries of solidism, humouralism, and vitalism. He points out how and where solids and fluids are diseased and the moving principle is disordered. He tries to show how intimately all are connected, and that blood, bile, and urine pass through and are modified by solid glands, which are supplied with nervous power; disturbing influences acting now on solids, now on fluids, or now on moving power, giving rise to disease and disorder. He traces disease to these different elements, without pretending to such a thorough acquaintance with their connections as to enable him to distinguish the precise agency of each. He does not profess to have found a point of view from which all the phenomena of disease can be seen, and their connections and relations traced out and understood.

Dr. Bennett's book is practical, and certainly very suggestive. We can

scarcely open a page without coming upon something of interest, and which might well be the subject of remark. He has been long, however, before the public, and we have now an arrangement with more detail, and a collection of much that has been said before. The title of his book is appropriate. We find in it clinical lectures on medicine, and not a complete treatise. Cases are well brought in to sustain his conclusions, and to show how he has been led to form them. There are opinions from which we should dissent, and a sufficient appreciation by the author himself of the value of his researches is plain enough everywhere. Oblivion of self is not as frequently met with amongst men of the intellectual powers and activity manifested by Dr. Bennett as could be desired. Self-love and self-seeking are often impediments in the way of truth. Dr. Bennett's reputation, however, is well established. He has done a great deal to assist and instruct the practising physician, and we are sure that all such who will take the time to make themselves acquainted with this second edition of his clinical lectures will not regret their labour. G. C. S.

ART. XVI.—*Observations on Naval Hygiene and Scurvy, more particularly as the latter appeared during a Polar Voyage.* By ALEX. ARMSTRONG, M. D. R. N., etc. etc. Author of A Personal Narrative of the Discovery of the Northwest Passage. 8vo. pp. 117. John Churchill: London, 1858.

IT is not pretended that this is a systematic treatise on naval hygiene or on scurvy. The observations on scurvy are chiefly derived from the author's experience on board of H. M. S. Investigator in the arctic regions. Sir Gilbert Blane's gold medal was awarded to him for his journal of practice on board of that ship.

At the present day, scurvy is rarely prevalent in the navy, and, in the opinion of Dr. Armstrong, when it "does unhappily break out, its appearance can always be traced to the neglect of proper preventive measures," the chief of which is the daily use of lemon-juice, an article employed for the prevention and cure of scurvy as far back as 1564; but it was not until 1795 that the British admiralty were induced to direct that lemon-juice should be issued to the British navy for this purpose.

"From this period a new era dawned upon our navy. The health of our seamen became wonderfully improved, and the efficiency of our fleets was greatly increased, when it was found that ships could keep the sea for any length of time, although deprived of that kind of diet [fresh vegetables] the want of which had been hitherto attended with such disastrous results. This happy state of things, which has contributed so much to the efficiency of our navy, and to the greatness and prosperity of our country, became established by the introduction of lemon-juice and its judicious employment as a means for the prevention and cure of a disease that had previously been the dread of sailors and the scourge of the sea."

Too much is here attributed to a remedy which is generally acknowledged to be efficient. The healthy condition of the British navy does not depend, in any considerable degree, upon the daily use of lemon-juice by all seamen who have been more than fourteen days at sea, eating the salt ration. The writer believes that the health of the navy of the present day had its origin in those measures which were consequent upon the mutiny at Spithead and the Nore,

in 1797, when, it will be remembered, the sailors demanded and obtained an addition of fresh vegetables and an increase in the weight of provisions allowed, as well as an augmentation of pay. Previous to that event, the British naval ration did not supply sufficient nutriment to maintain the body of a labouring man in health, and, though it has been increased at least one-third, it is not at present redundant. There was a time when scurvy, fever, dysentery, and ulcer were supposed to be inherent to sea life; but since the stand at Spithead compelled the government to furnish food in larger quantity, of better quality, and in greater variety, the bodily and mental conditions of seamen have improved, and we have been induced to believe that those diseases are no more incident to residence in a ship than in a house.

Nerve-power, vital force are results of assimilation of food and nutrition of the organism. Perfect and exact nutrition of all the organs is the condition of vigorous health. When, through the imperfection of the nutritive material brought to the organs for assimilation, or through the faulty action of the organs themselves, the function of nutrition becomes embarrassed, health is disturbed, or the animal power is abated. Believing these assertions to be true, there is no hesitation in attributing the bad health and fatal disorders, prevalent in the British navy until the close of last century, to the meagre quantity, and bad quality of the food given to sailors prior to the year 1797; and the high health now enjoyed is ascribed to other causes than the use of lemon-juice.

To indicate the improvement in the health of the English navy, we refer to the *Statistical Reports of the Health of the Navy*, by John Wilson, M. D. R. N. (Printed by order of the House of Commons, 1841.)

In 1779, the proportion dying was one in eight of the employed.

In 1811, the proportion dying was one in thirty-two of the employed; and from 1830 to 1836 inclusive, the average number dying annually was one in seventy-two of the employed.

The principal causes of this improved condition were, first and greatest, the increase made in the allowance of food demanded by the mutineers at Spithead, in 1797, and, subsequently, a progressive improvement in the quality of provisions. Dr. Wilson says:—

"It gave sufficient instead of inadequate supplies of nutriment, infused so much vigour into the body as enabled it to resist many influences which, in a state of debility, would have proved causes of disease and death; and at once, and almost entirely, banished from the fleet the asthenic affections previously infesting it—the scurvy, putrid fever, ulcer, and dysentery—which crippled, sometimes nearly destroyed, its energies, and contributed largely to its bad character."

Second. Sufficient supplies of palatable and, as far as perfect preservation is concerned, wholesome water, from the general use of iron tanks, since the year 1815. Prior to this date, wooden casks were employed, and, from their inferior stowing qualities, afforded a smaller supply, which "became speedily so offensive, and even disgusting from partial decomposition, that it was drunk only sparingly when feelings of thirst could no longer be borne."

Third. The substitution, in the year 1825, of tea or coffee for one-half of the quantity of spirits, usually Jamaica rum, the allowance of which had been one-half pint daily.

Fourth. Attention to the moral, intellectual, and religious training of seamen; improvement in apparel and personal cleanliness; improved ventilation of ships; the use of portable drying-stoves between the decks in wet weather.

"It will be generally admitted," says Dr. Wilson, "that some portion, how-

ever small, of the health now enjoyed in the navy, may be fairly ascribed to the professional attainments, zeal, and humanity of its medical officers; so much it may be permitted even to one of themselves to assume. Should there, however, be any unwillingness to admit that conclusion, there will be none as to the importance of the means put into the hands of those officers by comparatively recent regulations, including the nutritious and regulated diet provided for the sick and convalescent; the improved construction of sick-berths, dispensaries, and medicine-chests; the enlarged list of medicines, and the supply of superior articles in medical necessaries."

Although scurvy gradually disappeared from the navy of Great Britain after the close of the past century, it has always occurred to a greater or less extent in polar expeditions, and, according to our author, with a single exception, always made its appearance during the first winter in the ice.

All the public ships of Great Britain employed in polar discoveries since the time of Parry have been very nearly alike in tonnage, internal arrangements, general equipment, and victualling, as well as in the description of men composing their crews. For this reason the author inquires:—

"To what circumstance was it owing that one ship [the Investigator], in no respect better equipped or victualled than the others, but in some respects placed under comparatively disadvantageous circumstances, enjoyed an immunity from the disease for a longer period than has been hitherto known, and was visited with less comparative mortality than has ever occurred on board any ship wintering in the Polar Sea. There is no instance on record of any ship having spent one winter in the ice, with the exception before mentioned, without losing one or more men by death, the mortality for the most part resulting from, or associated with, the existence of scorbutic disease."

Dr. Armstrong appears to have overlooked the history of the expedition in search of Sir John Franklin, in the years 1850–51, under the command of Lieut. Edwin J. De Haven, U. S. Navy. The Advance and the Rescue passed a year in the Arctic regions; their crews did not daily use lemon-juice as a prophylactic, but only as a remedy after the appearance of the disease. Lieutenant De Haven says, in his official report, which is appended to the personal narrative:—

"As the season advanced, the cases of scurvy became more numerous, yet they were all kept under control by the unwearied attention and skilful treatment of the medical officers. My thanks are due to them, especially to Passed Assistant Surgeon Kane, the senior medical officer of the expedition. I often had occasion to consult him concerning the hygiene of the crew; and it is in a great measure owing to the advice which he gave, and the expedients he recommended, that the expedition was enabled to return without the loss of one man."[1]

The author believes that the exemption of the crew of the Investigator from scurvy for an unprecedentedly long time was chiefly due to the daily use of lemon-juice. This ship was six months continuously at sea, without procuring fresh vegetable supplies, and was two winters subsequently in the ice before scurvy made its appearance.

"The assertion, therefore," he says, "cannot be controverted that this disease can always be prevented, and that it should never occur, when we possess the proper preventive means, and know how to use them."

The lemon-juice supplied to the Investigator was of the best quality, and

[1] The U. S. Grinnell Expedition in search of Sir John Franklin. A Personal Narrative. By Elisha Kent Kane, M. D., U. S. N. Harper & Brothers, New York, 1853. (Page 504.)

consisted of two kinds, one of which was prepared by adding a tenth part of brandy, and the other was the acid simply boiled, and containing no spirit. The juice was kept in bottles, each containing sixty-four ounces, with a stratum of olive oil, about a half an inch in thickness, on its surface, and the bottles were carefully corked and sealed.

In order to test the relative merits of the two kinds of acid, each half of the crew partook only of one of the two preparations, which were mixed with sugar in separate tubs, from which each man daily drank his allowance of one ounce in the presence of an officer. In this manner, evidence was afforded that every man in the ship was fortified with a regular daily quantity of a powerful antiscorbutic.

"To this circumstance, therefore," says Dr. Armstrong, "I unhesitatingly attribute not only the immunity we enjoyed from scurvy for a longer time than has ever been known before in the Polar Sea, but also our good fortune in maintaining an unprecedentedly high standard of health among our crew during the same period."

In the opinion of our author, the antiscorbutic properties of lemon-juice are not deteriorated by keeping, provided that it be properly prepared and packed. That which was on board of the Investigator was subject to every possible vicissitude of temperature, from the highest degree of equatorial heat to the lowest of polar cold, being under the influence of the latter for upwards of three years; and when examined at the end of that time, its power of neutralizing alkalies was not in the slightest degree impaired.

The lemon-juice prepared by adding a tenth part of brandy was preferred, because it remained clear and free from deposit, while that which was simply boiled deposited a portion of its mucilaginous constituents in the form of a dense, heavy, cloudy-looking mass at the bottom of the bottle, apparently indicating that some change had taken place, but its therapeutic efficacy and its power to neutralize alkalies were not affected.

Had these two preparations been subject to the temperature of the tropics and the incessant motion of the ship instead of reposing in arctic cold during three years, where chemical actions and reactions must be impeded, it is possible that the properties of the boiled lemon-juice would have undergone important changes, and become a very feeble antiscorbutic remedy. It is probable that the deposit observed in it was due to the high atmospheric temperatures to which it had been exposed for several months before reaching the polar region. The writer of this notice has more than once met with lemon-juice, in the tropics, which had become unfit for use, in his opinion, after being on board two or three months, because it had fermented and evolved fetid gas.

Dr. Armstrong states that he has had ample opportunity to judge of the comparative antiscorbutic powers of lemon-juice and of pure citric acid, and is of opinion that the latter ranks next after lemon-juice. He has had no experience in the use of nitrate of potash, but considers its exhibition as a preventive or curative agent in scurvy to be in conflict with all sound principles of medicine.

Scurvy sometimes prevails among the troops at frontier posts in the United States. Assistant Surgeon Anderson, U. S. Army, reports very favourably of the nitrate of potash in the treatment of the disease, as it affected the command at Fort Terret, in Texas; and Assistant Surgeon Murray states that, at Fort Miller, California, "several cases of scorbutic diarrhœa have been treated with the happiest results with the supertartrate of potassa in small doses long continued."

In this connection, it may not be superfluous to notice here, that in 1851, Assistant Surgeon Glover Perin, U. S. Army, reported that owing to a scarcity of lemon-juice, he had sought and found a substitute for it in the treatment of scurvy, prevalent at Fort McIntosh, Texas, in the juice of the maguey, or Agave Americana, which was exhibited in doses of two ounces three times daily, with entire satisfaction. In 1852, Assistant Surgeon Crawford treated cases of scurvy at Fort Croghan, Texas, with the common prickly pear (*Cactus opuntia*). The result was highly satisfactory. It was prepared "by removing the thin epidermis from the thick, succulent leaves, and, after cutting them into slices, macerating them in water. This furnished a thick solution, which was given as a drink to the patients."[1]

It is conjectured that the prevalence of scurvy among the crews of ships engaged in arctic explorations is due to deficiency of food furnished by the British naval ration, which, though sufficient under ordinary circumstances, is inadequate to meet the demands of the system under the sedative influence of very low temperatures, long continued. On board of the Investigator each man was allowed daily about six ounces of preserved fresh meat, or about the same weight of salt beef or pork, and two and a half ounces of vegetables and a gill of rum, which was reduced in the second year to two-thirds of a gill, and in the third year, this was given only on alternate days. The allowance of bread for the first year was one pound, and for the second and third years, two-thirds of a pound, daily. Tea, chocolate and sugar, peas, pickles and suet were also included in the ration. One ounce of lemon-juice was administered daily during the first and second years, but only a half ounce during the third.

"Towards the beginning of the third year, the salt beef and pork were very generally eaten in the raw state, or only partially cooked, as the meat was found to allay hunger better in the raw state; and this plan was adopted for the additional reason that the meat shrunk very considerably in boiling.

"Having now fully stated the nature and quality of our diet, I may here remark that I consider the full allowance inadequate to maintain health in a polar climate, from the necessity there exists for a larger supply of carbonized food in such a region. If the supply of food is not equal to the demand, and is deficient in the proportion of carbon necessary for the wants of the system, that supply must be furnished from some other source, otherwise the vital process of respiration cannot be fully maintained. The tissues of the body, therefore, which are rich in carbon, must furnish that element, and hence the body gradually wastes, and debility and disease ultimately ensue. Men are less capable of resisting cold in the second year in a polar climate than they are in the first, and so on for every subsequent year of their sojourn. Their state of body is either at or above par, on first entering the ice, from the recent effects of wholesome diet and fresh vegetable food, which enable them to generate sufficient heat to meet the exigencies of the climate; and what the allowance of food fails to supply, is taken from other sources within the system. Now, in the second year these resources are obviously not so abundant, and a larger instead of a smaller quantity of food is necessary to generate heat, and to make up the deficiency. If this additional supply be not forthcoming, the results which I have before mentioned must necessarily take place."

To us it seems vain to suppose that lemon-juice can compensate for habitual deficiency of food, which, it is very generally agreed, is the cause of that con-

[1] See Statistical Report of the Sickness and Mortality in the Army of the United States, compiled from the Records of the Surgeon General's office, embracing a period of sixteen years, from January, 1839, to January, 1855. Prepared under the direction of Brevet Brigadier General Thomas Lawson, Surgeon General U. S. Army. By Richard H. Coolidge, M. D., Assistant Surgeon U. S. Army. Washington, 1856.

dition of the liquids and solids of the organism which is denominated scurvy. Lemon-juice was very regularly administered to the crew of the Investigator, but failed to prevent a visitation of the malady; and no facts are related by Dr. Armstrong which tend to show conclusively that the disease would have appeared earlier and proved more fatal without the lemon-juice. This disease is very rare, indeed almost unknown on board of the public ships of the United States; but in them lemon-juice forms no part of the ration or of the surgeon's stores. The allowance of citric acid is two pounds a year to frigates, whose crews number about four hundred. In a word, experience in the navy of the United States shows that the daily exhibition of lemon-juice or of citric acid is not necessary to protect men from scurvy while they are well fed, well clothed, well lodged, and in most respects, though not in all, treated with due consideration, as they are in our naval service. And even as curative means, all the articles named are to be regarded as imperfect substitutes for a full diet of fresh, ripe fruits and vegetables, with a due proportion of sound fresh beef or mutton, properly cooked. American whalers consider potatoes, eaten raw in moderate quantity, to be a prophylactic, as well as remedy for scurvy, unsurpassed by lemon-juice or any other article.

Dr. Armstrong judiciously urges that the first measure to be taken, in order to secure a healthy ship's company, is a careful examination of the men prior to enlistment. He says—

"I have frequently seen, during my course of service in the navy, when acting on invaliding boards, men brought forward for survey a few months after their entry, labouring under diseases which were never contracted in the service, and which the exercise of greater care and attention might possibly have detected."

When men are disposed, as recruits generally are, to conceal the defects of their bodily condition, even very careful medical scrutiny may fail to detect them. And on the other hand, some malingerers have so adroitly assumed the counterfeit presentment of disease, that more than ordinary observation has been necessarily exercised in exposing their deceptions. In both these cases the difficulties of diagnosis between health and disease are sometimes so great that even the most skilful and careful medical officer may be deceived, without justly incurring censure for heedlessness or ignorance. Dr. Armstrong seems to appreciate fairly the importance of those duties of the military surgeon which embrace the inspection of recruits, and the examination of the sick or hurt who claim pension or discharge, and his observations on these points, though very general in character, are worthy of the attention of members of the profession employed in military service, either ashore or afloat.

Dr. Armstrong urges that among the most essential conditions for maintaining health in a ship's company is to keep the decks dry, freely ventilated, and the bilges free from stagnant water, which may soon become a source of vitiation of the atmosphere. He says—

"There can be no more fertile source of disease amongst seamen, or indeed other persons, than the constant inhalation of a moist atmosphere, whether sleeping or waking; but particularly is this influence injurious, when the moisture exists between a ship's decks, where it may be at the same time more or less impure, and hot or cold, according to circumstances.

"I have already stated the influence which I believe it exercises in favouring the production of scurvy. The maintenance of a dry atmosphere must therefore be considered a more or less powerful preventive of the disease. But where the evil influence of a moist atmosphere is exercised in a marked degree, is in the vast number of rheumatic, catarrhal, bronchial, pulmonic, intestinal and other diseases which it never fails to engender; and these are often of a

very severe and obstinate character, in many cases ultimately entailing the necessity of invaliding the subjects of them. This evil has its origin, for the most part, in a practice formerly universal in the navy (and which, I regret to say, still exists, but to a less extent), of daily washing and holystoning the decks, and all parts of the ship that could be reached. They consequently become saturated with wet, and the slow process of evaporation does not properly dry them at the end of twenty-four hours, when they become subject to the same process again, and thus the air between decks is kept constantly moist. It was therefore in my experience, no unfrequent circumstance to find a sick list almost entirely made up of diseases resulting from this cause. The representations of the medical officers, who were aware of the injurious influence of the practice, often failed to arrest it; and the health of a ship's company was and is but too frequently sacrificed to the caprice or self will of commanding officers who persist in a practice, which to minds the least intelligent must appear to be be fraught with much evil. Yet it is followed to a great and unnecessary extent in the navy, merely because it is the custom of the service; and I have generally observed that some officers are most wedded to the practice in a degree proportionate to their unfitness for other and more important duties; and they glory in their ability, at least, to practise the cold water cure on the ship's decks, in spite of all representation and remonstrance, and with a total disregard of consequences."

The navies of Great Britain and the United States are almost identical in many of the practices observed; and, when we remember that the organization of the first was the type from which the latter was planned, it is not very surprising that the copy should closely resemble the model (which is considered by a majority of American seamen to be the best in the world), except only in size and cost. Few medical officers of the navy of the United States can read the above paragraphs by Dr. Armstrong without acknowledging that they apply with much emphasis and truth to our own service. On board of some of our ships, cruising in moist, tropical regions, the decks, from being drenched daily with sea-water, are never absolutely dry; yet no medical representation is sufficient to convince their commanders that the rheumatisms, catarrhs, &c., afflicting the crew, are caused and kept up, in a very great degree, by the fact that the men sit upon the wet decks while they eat, and, while between the decks, sleeping or waking, never respire any other than an excessively moist atmosphere. It is rare to find, on board of ships wherein the wet method of polishing the decks is followed, the wet bulb of a thermometer standing at more than 2° Fahr. below that of a dry one, so nearly is the atmosphere kept to saturation with moisture by local causes.

Dr. John Wilson, R. N. (in the Parliamentary document above referred to), earnestly called attention to this subject in 1840; yet, according to the testimony of Dr. Armstrong, the practice has not been very much abated. Dr. Wilson, speaking of the different modes of cleaning ships, said:—

"Extreme cleanness, even to spotless whiteness of the decks, is not necessary to health, and, when obtained at the expense of frequent washing, may be, and no doubt often is, injurious to it. Hence, dry stoning, at any rate dry cleaning, though it may not so much beautify the decks, should be preferred to cleaning by any means in which water is employed."

The writer learns from unpublished data that, on board of a frigate in which the decks were kept constantly wet or damp, from daily washing, during the first nine months of the cruise, the daily average number of sick exceeded seven (7.67) per cent. of the crew. The decks were washed two or three times a week during the second year, and the daily average number of sick was reduced to six (6.63) per cent. of the crew; and in the third year, when the decks were washed only once in a week or two, it fell to four

(4.49) per cent. Except changing from a wet to a comparatively dry system of cleaning the decks, there does not appear to have been any circumstances to which this striking difference in the sanitary condition—of more than three (3.18) per cent.—could be fairly ascribed.

We have somewhat extended our notice of Dr. Armstrong's thin volume (the subjects of which are of practical interest to comparatively few members of the profession), because we desire to indicate to the military readers of this journal the nature and scope of the author's statements, which are not likely to be reprinted in this country. Naval hygiene and scurvy are not separately treated; but observations on both are incidentally mingled and repeated to such an extent as to expose the author to being suspected, in some degree, of want of method. Nevertheless, we commend the work to that class of readers for whom it was especially written. W. S. W. R.

ART. XVII.—*The Ganglionic Nervous System; its Structure, Functions, and Diseases.* By JAMES GEORGE DAVEY, M. D., M. R. C. S. Lond., &c. &c. London: John Churchill, 1858. 8vo. pp. 309.

THE physiological views expounded in this work have been, to some extent, already made known to the profession; especially in communications by Dr. Davey in the *London Lancet*, in 1850 and 1853. Their tendency is to exalt very much the importance of the sympathetic or ganglionic (named by Mr. Solly the *cyclo-ganglionic*) system, above what has been conceded to it by most modern physiologists; and to distance even, in this respect, the conception of the "organic life" of Bichat.

The anatomical chapter is simply preliminary and general. It emphasizes, however, the textural difference between the cerebro-spinal and the ganglionic structures, remarking that the admixture of the gray (gelatinous) and white (tubular or fibrous) substances in the latter gives to its parts or ganglia a certain independence of power and action, which the distinctness of the two in the cerebro-spinal renders impossible.

In comparative anatomy, Dr. Davey's opinions are expressed as follows:—

"*a.* The ganglionic nervous system first exists in a molecular form, and is made up of globules dispersed throughout the homogeneous texture of the animal, as in the acrita, the lower entozoa, &c.; as such it has also been presumed to exist in the early human embryo.

"*b.* These nervous globules, arranging themselves in a longitudinal series, form filaments, and these 'filaments' at length form a central point, a ganglion (*solar ganglion*, Anderson).

"*c.* Ascending the scale of animal creation, and arriving at the *mollusca*, nervous matter is found secreted about and around the œsophagus, and on the dorsal aspect of the animal (supra-œsophageal ganglion); this nervous matter becomes, in the higher animals and in man, the tubercula quadrigemina or medulla oblongata.

"*d.* Still ascending, the cyclo-ganglionic nervous system becomes more complicated, whilst the several tissues and structures subordinate to the same, including the cerebro-spinal system, are proportionately amplified; the increased development of the former, and the general augmentation and addition of parts in the latter, being in the relation to each other of *cause and effect.*" (P. 65.)

Dr. Davey considers that the absence of "distinctness" in the nervous tissue

in the lowest forms of animal life does not disprove its existence, which he believes, on the evidence of *vitality* and *irritability*, to exist in a "molecular" or diffused state even in *plants*. Although not without some ambiguity in the reasoning, he suggests the identity of *all* primal organic cells with "nervous globules," in which alone, according to his view, vitality can reside. In the physiological chapter (p. 116) the ganglia of the sympathetic are designated as "the germ of all animal life, whether cerebral, spinal, or organic." If this expression be understood in the sense of *basis* or substratum, it will certainly be less unphilosophical than that used in the last of the propositions above quoted, in which the relationship between the circle of ganglia and the rest of the nervous system is described as that of *causation*.

Later in the volume, while criticizing the views of Dr. M. Hall, the following conclusions are enunciated (p. 188):—

"1. That the more complicated anatomy of the spinal cord, suggested by Dr. M. Hall, and sought for by Mr. Grainger, has not yet been realized.

"2. That the mere sensory and motor nerves or roots are themselves sufficient to the integrity of all those phenomena called excito-motory, which emanate from the spinal cord; or, in other words, that there is no necessity for any distinct division of the nervous (spinal) system for the production of the excito-motory phenomena.

"3. That the exercise of the functions of the spinal cord is due to the peculiar influence of the ganglionic nervous system exerted on its organism.

"4. That both the external and internal excito-motory phenomena are alike dependent on the vital stimulus imparted by the great sympathetic nerve; and, in the former instance, through the instrumentality or medium of the medulla spinalis, &c. &c."

The evidence and illustration of these propositions, which it would require many pages to analyze, concern especially the following subjects: the observed effects of a blow, or of pressure, upon the solar ganglion, or upon other main ganglia of the sympathetic; the history of acephalous and amyencephalous monstrosities, maintained in vitality by the ganglionic system alone; examples of cerebro-spinal paralysis, in which all organic acts, the repair of injuries, &c., have proceeded as usual; the pathology of "general paralysis of the insane," which extends to the ganglionic centres, destroying excito-motor power; experiments by Brodie, Sharpey, and Schrœden, on the effects of the removal of the brain and spinal cord; those of Reid and Magendie, proving digestion to be possible without the influence of the pneumogastric nerve; the phenomena of sleep, of animal heat, and of instinct.

We find occasional matter for criticism in the manner in which these topics are handled and made subservient to our author's purpose; as, for example, in the too easy assumption that the *spinal* system necessarily partakes of inaction, with the cerebrum, during sleep; and in the assertion, that "animal heat is no doubt essentially a vital process, and not a chemical one." If it be not *both*, we must consider it at least premature at present to *exclude* chemical action from the explanation of its production.

Our idea of the soundness of Dr. Davey's physio-philosophy is somewhat affected by his repeated expression of confidence in the doctrines of "phrenology," and of admiration for what we had learned to consider the already exploded crudities, however ingenious, of the author of the *Vestiges of Creation* upon the subject of the origin of life. The experiments of Crosse and Weekes are, by our author, still held to be "conclusive" that life does not proceed only from life.

It is probable that he may, ere long, claim the dignity of being alone in that opinion.

Although full proof does not appear to us to have been given, in the book under notice, of the *totality* of the doctrines advanced, as to the supremacy of the ganglionic portion of the nervous system, yet there is much in its statements and reasonings deserving of profound consideration, as bearing not only upon the explanation of important physiological problems, but also upon the theory of disease and the rationale of its treatment.

Dr. Davey asserts, incidentally, that too much credit has been assumed by, and conceded to, Dr. Marshall Hall, for originality as well as for exact correctness in his views of the functions of the spinal system. The *completion* (if it be yet completed) only of the physiology of the excito-motor system belongs to him; the essential ideas of it were, undoubtedly, developed by Unzer, Walker, Bell, and others, before him; as have been those of most consequence concerning the sympathetic system, by Prochaska, Clark, Grainger, Brachet, Fletcher, and others, before Dr. Davey; and, almost contemporaneously, also, their completion has been promoted by Dr. Campbell and by M. Bernard. The gradual progress of science rarely admits of the monopoly, even of one great discovery, by a single individual; nor need the genuine lover of science desire that it should be otherwise.

The chapter on the pathology of the ganglionic system is a very interesting one. The general distribution of this portion of the nervous apparatus is referred to, as proving its participation, directly or indirectly, "in every variety of abnormal action which we may witness." But especially is the pathology of fever, and that of cholera, illuminated by the consideration of the relations of the sympathetic system to the functions affected in those disorders. Upon this subject, Dr. Davey wrote as early as 1835; although Favell, Müller, and others, have also propounded similar views in regard to the nature both of fever and of cholera. From experiments upon animals, as well as from observations upon men, Dr. Davey asserts that the fatal depression of cholera, consisting in the complete annihilation of the action of all the vital organs, may be at any time simulated by pressing the solar ganglion upon the forepart of the bodies of the vertebræ over which it lies. The occasional termination in death of apparently slight attacks of ordinary disease may be accounted for, also, by a predisposition to depression and exhaustion, seated in the ganglionic centres. Diseases involving the brain, moreover, as the *apoplexia levis* of Forestus and Portal, and epilepsy, especially the *epilepsia syncopalis* of M. Hall, may be *primarily* seated in the ganglionic system, affecting secondarily, only, the cerebro-spinal apparatus. Nor is this less probably true of some more slowly progressing organic and functional diseases, as the *degeneration* of various organs, fatty or otherwise; local or partial paralysis or atrophy; hypochondriasis and irritative dyspepsia; diabetes, &c. The latter disorder Dr. Davey considers to be an affection of the *renal ganglia* chiefly. Even the pathology of dysentery is believed by him to be capable of improved interpretation under the same views; the seat of the primal disorder being inferred to be the organic (intestinal) nerves, through whose perverted influence on secretion arises the irritating character of the fluids discharged into the bowels. A very similar opinion, extending also to the explanation of diarrhœa and cholera morbus, &c., is quoted from Dr. Copland's *Medical Dictionary;* in which the recognition of the "excito-secretory" principle in the generation of disease is approached very closely.

Various spasmodic and nervous affections of hitherto indeterminate pathology our author would locate, not without plausible reasons, in the centres of organic life; as *neuralgia, angina pectoris, asthma, pertussis,* and *laryngismus stridulus.*

Not following him, at present, in the consideration of these, we must say of the last chapter, upon the principles of *treatment* of disease, that it does not appear to us equal in value to those which have preceded it. From the opinion that the pathology of fever and cholera consists essentially in derangement of the ganglionic nervous system, and, hence, that the primary object in their treatment should be the restoration of that system to its normal state, he passes at once to the advice, that *purgatives* should be made the basis of that treatment. Why so? No explanation is given of the *rationale* of the influence of purgatives upon the "condition of the ganglionic nervous apparatus;" and, without such an explanation, their use bears no nearer relation to the neuropathic than to any other theory of therapeutics. Nor does experience bear out, conclusively, the superiority of this plan of medication. In cholera, the failure of Dr. George Johnson to establish the potency of the "castor oil" treatment is ascribed, by Dr. Davey, to his employing *only* the oleaginous purgative, instead of using this merely as an adjuvant, to *turpentine, croton oil,* and *colocynth,* and aiding these also by stimulation with ammonia and brandy, &c. This last was the plan employed by Dr. Davey himself, "with confidence," during a five years' practice at Ceylon.

Notwithstanding, however, the disagreement of these therapeutical views with those adopted by the majority of practitioners, and the absence of explanation of their real connection with the author's own pathological opinions, the facts and reasonings which constitute the body of Dr. Davey's book render it well worthy of study by the physiologist and physician. Its most valuable matter is suggestive rather than demonstrative. It will require yet a long period to complete the exploration of the difficult region of the nervous system, and of its relations to disease; and still longer must we wait for the application of the matured results of such investigations to rational practice.

H. H.

BIBLIOGRAPHICAL NOTICES.

ART. XVIII.—*Transactions of American Medical Societies.*

1. *Transactions of the Medical Society of the State of New York, at its Annual Session of* 1858. 8vo. pp. 655. Albany, 1858.
2. *Proceedings of the Sixty-Sixth Annual Convention of the Connecticut Medical Society, May,* 1858. 8vo. pp. 120. Hartford, 1858.
3. *Transactions of the Twelfth Annual Meeting of the Ohio State Medical Society, held in the City of Sandusky, June,* 1857. 8vo. pp. 226. Sandusky, 1857.
4. *The Transactions of the Belmont Medical Society,* for 1856-57. 12mo. pp. 70. Bridgeport, Ohio, 1858.

1. THE *Transactions* of the Medical Society of the State of New York, at its Session of 1858, embrace a series of able, interesting, and valuable papers.

The annual address of the president, Dr. AUGUSTUS WILLARD, was on the subject of air, exercise, and sunlight. The absolute necessity of a constant and ample supply of free, pure air, of a proper temperature and moisture, of a regular and adequate amount of active, out-door, muscular exercise, and of daily and free exposure to solar light, as three of the most important of the hygienic agents, upon whose agency intimately depend the enjoyment of health, the extension of existence, the increase of animal and mental comfort, and the certain prophylaxis of disease, is ably enforced by Dr. W. He especially dwells on the importance of sunlight to health as the subject the least understood and appreciated. The particular effects and the peculiar influence of the light of the sun upon the animal system are not, it is very certain, sufficiently recognized by the community generally, notwithstanding there is good reason for believing that, in the preservation of health, and in the prevention of disease, it exerts an amount of influence which can scarcely be estimated.

"A particular and most prominent effect," Dr. W. remarks, "of the long polar night, upon the human economy is the peculiar paleness of the skin. It is undoubtedly a true anæmia, and must, without hesitation, be attributed to the absence of sunlight. We need not, however, travel to the arctic circle to find sufficient evidence that an anæmic state of the system may be, and is produced by the absence of sunlight—that diffused daylight is not sufficient to keep up the health and strength of the system—that, in short, the direct rays of the sun are indispensable to a perfectly healthy condition of the body. Persons who have been imprisoned in dungeons where the light of the sun never enters, assume a decidedly anæmic appearance—the inmates of our State prisons, who are mostly excluded from the direct rays of the sun, have a pale and exsanguine look, and become, in many instances, feeble and sickly, and not unfrequently die prematurely.

"It is undoubtedly true that a majority of the cases of anæmia which come under the observation of the physician, occur among those who are deprived, by some means, of the necessary influence of direct sunlight. It is a consequence of civilization, in this country at least, to condemn a certain class of citizens to an inactive in-door life. Fashion deprives 'the better part of creation' of sufficient exercise in the open air. True, they tell us that they take a daily promenade or a ride, but in the one case they are closely veiled, and in the other, the exercise is of a passive kind and in a covered carriage, and in both cases the direct rays of the sun are never suffered to touch upon the damask cheek, or play with the taper fingers, lest they should darken the roses upon the one, or sully the lilies upon the other. Perhaps it may be that a sufficient amount of exercise is taken in the twenty-four hours to answer the

demands of the system were it properly employed. But a small part of it, however, is taken by sunlight, and that which is taken by artificial light can never become a substitute. The exercise may even be active, but the chemical influence of artificial light, if any it has, can never, by any process, be made to supply the place of the sun's chemical rays, and the chemical constitution of the body cannot, of course, under such circumstances, be perfect. The system must necessarily languish and falter, become pale and bloodless, and ultimately fall into a fitting condition for the advent of those thousand nameless ills which the spirit of modern civilization has conjured into existence. Extremes meet. The ills which the tyrant fashion has meted out to her followers with unsparing hand, are sown broadcast among those who are condemned, by poverty, or chance, or crime, to spend their days in confinement, in workshops, in poorhouses, in dark and sunless localities, situations where the 'perfumed bath of sunshine' can never be enjoyed. The same paleness and bloodlessness, the same tendencies to nameless disease, are to be found in their comfortless homes, as are observed among the pampered inmates of the stately and curtained palaces of the 'upper ten.'"

To the address of Dr. W., succeed biographical sketches of Drs. Sumner Ely, Thomas Spencer, and Henry Reynolds, deceased members of the New York State Medical Society.

Dr. Spencer spent the few closing years of his life in this city, where he died on the 30th of May, 1857, in the 59th year of his age. His general appearance impressed us with the belief that he was many years older.

The first of the scientific papers is one on anæsthesia, by PETER VAN BUREN, M. D. It is, in strict parlance, a somewhat elaborate account of the chemical history and anæsthetic properties of chloroform, with an inquiry into the influence its employment exerts upon the mortality of surgical operations and obstetric practice—its value as a remedy in various spasmodic and nervous affections—the extent to which anæsthesia may be safely carried, and the indications by which to determine when that limit has been reached, and the means to be employed when it is passed, and anæsthesia has been carried too far.

The paper is one of deep interest. Dr. Van Buren is a strong advocate for the induction of anæsthesia in surgical operations, and to assuage the pain of parturition; and he is decidedly in favour of chloroform as the anæsthetic agent. We cannot, he thinks, err in devoting our attention closely and patiently to the study of all that appertains to the properties and uses of this agent, which has, he remarks, become the principal and almost sole reliance for the production of anæsthesia when all other agents fail. It possesses, he affirms, powers, which, if properly applied, exert a salutary and controlling influence over several phases of disordered nervous action, without the necessity of its being carried to the extent of producing complete anæsthesia.

There is nothing particularly new in this paper of Dr. Van Buren. It presents, in a condensed and intelligible form, the general facts and arguments that have been adduced in favour of a resort to anæsthesia, in cases in which it is desirable to assuage pain or quiet disordered nervous and muscular action, with the precautions necessary in the use of the most powerful, prompt, and certain of the anæsthetic agents, chloroform, to insure its successful operation with entire safety to the patient.

The next paper is on "the use of amylene as an anæsthetic," by Dr. JOHN G. ORTON. The result of this gentleman's observations from personal researches in regard to this article as an anæsthetic, are as follows:—

"1. It is more rapid in the production of anæsthesia than either chloroform or ether.

"2. A much smaller quantity is required to effect abolition of sensation than of either chloroform or ether.

"3. Long-continued insensibility may be maintained without a loss of consciousness.

"4. The recovery from the state of anæsthesia is almost instantaneous.

"5. Profound coma has never supervened upon its administration.

"6. Neither vomiting nor coughing has occurred during or following its inhalation.

"7. The pulse and respiration are slightly increased in frequency.

"8. I have never witnessed any struggling or rigidity in any of my patients, while bringing them under the influence of the anæsthetic, as is frequently the case with chloroform and ether.

"9. Amylene should always be administered with the aid of an inhaler, which should be so arranged as to allow a large admixture of atmospheric air.

"10. Ordinarily, a patient will require about one fluidrachm of amylene per minute, to effect and maintain anæsthesia of the third degree of narcotism.

"11. The same care should be exercised in the selection of proper subjects for its administration, as in chloroform or ether, namely, absence of organic disease of the brain, lungs, or heart.

"12. With due precaution in its employment, which in fact should characterize the use of any of the anæsthetic agents, I regard amylene equally as safe as chloroform."

The failure which has heretofore attended the use of amylene in this country, Dr. Orton declares to have arisen solely from the fact that the article employed was a spurious one, and not amylene; one entirely destitute of anæsthetic properties.

"Cerebro-spinal meningitis," by Dr. D. G. Thomas. In this paper Dr. T. professes to present a general account of the etiology, pathology, and therapeutics of the disease; it having prevailed, as an epidemic, with a fearful ratio of mortality, in Central and Western New York, during the spring and winter of 1857.

Had the author confined himself to an exact history of cerebro-spinal meningitis as it presented itself during the epidemic just alluded to, with the nature and results of the treatment adopted for its control, he would have furnished a valuable addition to the materials necessary for a proper understanding of the etiology, nature, and management of one of the most malignant and uncontrollable of the acute affections the physician is called upon to treat.

In its present form, the paper of Dr. T. adds nothing to our previous stock of knowledge, and can scarcely be received as a full and comprehensive exposition of what is actually known in respect to the disease of which it treats.

The next paper, by Dr. J. V. Kendall, is on this same disease—or, as he terms it, "the brain fever," as it prevailed during the winter of 1857, in Onondaga and some other counties of New York.

The description of cerebro-spinal meningitis as given by Dr. K., is very full and clear, and well illustrated by the detailed history of a number of cases. In regard to treatment, the author remarks that venesection was practised in one case with a favourable result, but in no other case dared he resort to the remedy, on account of the evident tendency to rapid and fatal prostration which was invariably present.

Anodynes, even in large doses, seemed in the early stage to increase the watchfulness; but subsequently, and after an evacuation from the bowels had been procured, they often quelled that intense restlessness like a charm.

Cold applications to the head, in some cases, appeared to be pleasing to the patient, in other, and the majority of instances, warm fomentations, as hops steeped in warm water, applied to the scalp, with heat to the lower extremities, were productive of a good effect.

In cases in which the brain and spinal nerves had become, as it were, benumbed, much present benefit was derived from the application of several blisters to various parts of the surface, particularly upon the neck. When, in the first stage, the patient was semi-delirious and tossing about with pain, calomel, in large doses, was found to be the best remedy—a state of ease and quietness generally ensuing so soon as the calomel produced a free discharge from the bowels. In all stages of the disease, when the bowels are inert, procuring a free discharge of dark offensive stools by the administration of calomel, has the effect of rousing the patient from his state of stupor.

In the early stage of the disease, quinine was found to be utterly useless as a means of arresting its progress. Subsequently, however, to the first stage, when there were still much restlessness and wakefulness, its use, in full doses,

sometimes induced perspiration and a state of calmness; still later in the disease, in smaller doses, it had some value as a tonic.

If the patient survive the first period of the attack, but sinks then into a state of indifference, according to Dr. K. nothing is left for the physician to do but merely to watch the progress of the case, and meet whatever symptoms arise with their appropriate remedies. On many days it will be apparent that the efforts of nature are doing as much for the patient without as they could with his assistance. Whatever treatment may be necessary during this stage, it must be of an alterative, stimulant, and tonic character.

There is still, though not in this connection, another paper in these *Transactions*, on cerebro-spinal meningitis; it is by Dr. T. H. Squire, who treats of the disease under the name of "congestive fever," giving as synonyms, pernicious, spotted, and brain fever, typhus petechialis, and its correct denomination, cerebro-spinal meningitis. Dr. Squire presents the history of forty-three cases of the disease, with a view to its faithful delineation in the most fatal form under which it prevailed, during the winter and spring of 1857, in Elmira and other villages of the State of New York. Most of the cases are given in detail, and furnish very interesting data for the study of the pathology of one of the most formidable of the acute affections of the nervous centres.

Of the forty-three cases reported by Dr. S., thirty-one were in males and twelve in females. Seven of the patients were between 1 and 2 years of age, seven between 4 and 5 years, eight between 5 and 10 years, five between 10 and 15 years, five between 15 and 20 years, four between 20 and 25 years, and seven between 30 and 41 years. Thus, as in most other epidemics of cerebro-spinal meningitis, children and young persons, especially boys, were by far the most frequent victims of the disease.

In regard to the duration of the disease in the 43 cases recorded by Dr. S., 2 terminated in two hours, 2 in four, 3 in six, 1 in seven, 4 in twelve, and 1 in sixteen hours; 5 terminated in one day, 5 in two, 6 in three, 3 in four, 4 in five, 1 in six, 1 in nine, and 1 in ten days; in 2 cases the disease continued for eight weeks, in 1 four months, and in 1 ten months.

The fatal cases only are reported by Dr. S. How many were attacked and recovered, he is unable to say. He has no doubt, however, that a number had the disease in a very mild form, and speedily recovered under treatment; but he thinks that the number of individuals who had violent headache, vomiting, jactitation, dilated pupils, local paralysis, or any well-marked evidence of effusion or even extreme congestion of the brain, and fully recovered, must have been very small.

The symptoms were very uniform in all the cases. A chill, headache, vomiting, prostration, morbid sensitiveness of the skin, jactitation, coldness of the surface, wildness of expression, dilated pupils, irregular breathing, paralyzed deglutition, wry neck, retraction of the head, dulness or abolition of the senses, pulse but little affected, bowels quiescent, petechiæ, delirium, convulsions, coma; many or all of these symptoms are present in every case. The diagnosis is therefore not difficult, especially when the disease is fully established.

The prognosis is extremely unfavourable. There is far more hope of avoiding the disease by prophylactic measures than of curing it when once established.

In respect to treatment, Dr. S. prefers, during the cold stage of the attack, the free use of brandy and other stimulants; but if the patient survive this period, and a severe paroxysm of fever sets in, with unmistakable evidence of cerebral congestion, he questions whether the lancet might not be admissible, or even judicious. It is a sad truth, however, that in the more formidable cases all treatment was found to be alike unavailing.

We now turn back to a report by Dr. B. Fordyce Baker, "On the Comparative Use of Ergot and the Forceps in Labour," or, to speak more exactly, a contrast of the indications which indicate the use of one of these agents, in aid of parturition, in preference to the other. The subject, which is an important one, is treated with great judgment; though, in the course of its discussion, Dr. B. has not, in reference to the proper use or abuse of either the ergot or the forceps, presented anything new.

He would, and, we think, very properly, restrict the use of the ergot to a very

limited number of cases. The concourse of circumstances which warrant its use are seldom met with in those cases where it might prove advantageous. As a means of preventing hemorrhage in cases of prolonged labour, he speaks highly of its effects. To this end, he would administer the ergot immediately before delivery, when the head is on the perineum and about to be expelled. It is an effective agent, also, for the arrest of hemorrhage in cases of partial presentation of the placenta, and in cases of post-partum flooding, except when this occurs in women of a weak, delicate, lax fibre, characterized by pale countenance, spare limbs, slow and inefficient labour-pains, and feeble, though perhaps rapid, pulse. In such cases Dr. B. considers that the ergot should never be administered except in conjunction with opium, or until the exhausted powers of the nervous system have been restored by the use of opium.

As a remedy for retention of urine subsequent to delivery, Dr. B. has found the ergot so uniformly efficacious that, for some years, he has not had occasion to employ the catheter to empty the bladder. He usually gives it in the form of tincture, twenty drops for a dose, every half hour, until a free discharge of urine occurs.

After a brief sketch of the indications for the use of the forceps, and of the dangers attendant upon an improper and unskilful resort to them, Dr. B. remarks in conclusion:—

"I must state my conviction that the more enlarged is the clinical experience, and the more accurate the observation, the more rarely will the ergot be used before delivery; and, furthermore, that the fear of delay in labour will be greater than the apprehension from the use of forceps. McClintock and Hardy gave the ergot in the second stage, on account of inertia, in nineteen cases, after which it was necessary to deliver with one or both blades of the forceps. In ten of these cases the child was lost. The death of the child could not have resulted from the use of the instruments, and must have been due either to the ergot or the protracted labour."

The following case of fracture of the cervical vertebræ, proving fatal not until twenty days after the accident, is related by Drs. Van Dyke and Murdoch:—

A healthy young man, æt. 23 years, fell, June 10, 1857, through the hatchway of a mill, a distance of about 25 feet, and struck the back of his neck. During and immediately after the fall he was perfectly conscious. He complained of pain and immobility of the neck; had some difficulty in moving his arms, and no power of motion in the fingers. In his legs there was complete paralysis of sensation and motion; he had no power over the bladder. On repeated and careful examination of the spine, no fracture could be detected, and the case was supposed to be one of concussion of the spinal cord. The patient gradually improved up to the twentieth day after the accident; the pain and stiffness of the neck had disappeared so as to allow of his rolling his head freely and without pain from side to side; he had recovered the entire use of his arms and wrists, but the paralysis of the fingers still remained; perfect sensation returned in the legs, which were affected with occasional involuntary twitchings. The intellect was clear, the skin natural, the pulse regular, respiration easy, appetite good, sleep at night sound and tranquil, and the bowels, under the use of mild cathartics and enemata, had regained their regularity; the urine was also passed voluntarily.

Such was the condition of the patient when visited on the morning of July 1. At noon of the same day his medical attendants were summoned in haste, and were surprised to find him in a dying condition. He had been moved, a few minutes before, from the lounge on which he had been lying, to his bed, immediately after which he complained that his neck had been wrenched, and that he felt blind. He was almost pulseless, with cold skin and difficult respiration. Stimulants aroused him for a few minutes at a time, when he sank again, and within two hours after his removal he died, having lived twenty days from the time of the accident.

By a *post-mortem* examination it was ascertained that the fifth and sixth cervical vertebræ were fractured. The fifth through its laminæ on both sides, the fragment being so driven backwards as to encroach upon the spinal cord; there was also a portion broken off from its body. The sixth vertebra was also frac-

tured through both its laminæ, but without displacement. The membranes of the cord were slightly injected with blood, but otherwise healthy. No effort at union was visible at the seat of fracture.

A short paper by Dr. VAN DYKE comprises statistics of obstetric practice for the four years from February 20 to January 16, 1858. These statistics are valuable when compared with others, with the view to the deduction of general conclusions. In their isolated form they present no prominent points for comment.

A very interesting and valuable communication is presented by Dr. ALDEN MARCH, on osseous union of intra-capsular fractures of the neck of the femur. It is in illustration and proof of the position assumed by the writer, namely, that, in opposition to the generally received opinion, complete fracture may occur within the capsular ligament, and be followed by union from ossific deposit, without impaction.

The next paper is by the same gentleman as the last; it is the history of a case of urinary calculi, especially interesting from the great age of the patient (87 years); the number of calculi; the dissimilarity in the chemical composition of the calculi spontaneously voided, and the larger and *outer* portion of that extracted by operation; the similarity or *identity* in chemical composition of the centre of the large calculus removed by operation and those passed spontaneously; and, finally, the happy result of the operation.

Both the foregoing papers are accompanied by well-executed engravings.

A report of the mortality of Brooklyn is communicated by Dr. GOODRICH, and one containing some judicious remarks on the subject of the registration of births, marriages, and deaths, by Dr. F. B. HOUGH.

Dr. C. V. BARNETT reports twenty-one cases of poisoning by arsenic, from absorption. These cases are the result of the external application of a mixture of arsenic and nitric acid, liberally applied with a swab by a charlatan, for the cure of cancer. The symptoms and phenomena were very similar in all these cases: paralysis, to a greater or less extent, of the upper and lower extremities, or prickling and numbness of the fingers and toes, or pain and distress of both extremities; constant intense thirst; burning pain of stomach, œsophagus, and throat; dryness and heat of mouth and throat; frequent retching, and vomiting of dark-coloured matter; frequent dark, fetid stools; pain and tenderness of abdomen; a frequent small pulse; great prostration of strength; haggard countenance; inability to sleep; extreme restlessness; occasionally headache, giddiness, dry, hacking cough, and swelling of the hands and feet.

All of the cases were treated by a very free exhibition of the hydrated peroxide of iron—large doses at short intervals.

The cases detailed by him, Dr. B. remarks, present conclusive evidence of the incorrectness of the opinion of Blackadder and others, that the injurious effects of arsenic, applied externally, result from its use in quantities so small as not to destroy quickly the organization of the part with, consequently, its power of absorption. In all of them the arsenic was applied in *large quantities*, and always in conjunction with the free use of nitric acid, which, of itself, was sufficient to destroy the organization of the part to which it was applied.

A case of accidental nigrites, in a female 16 years of age, the daughter of a respectable farmer, is related by Dr. W. H. GARDINER. When the patient was first seen by Dr. G., September 15, 1857, the discoloration of the skin had existed for about four years. She presented in the colour of the surface the appearance of a dark mulatto, with the distinctly marked features of a European. Her father was of English, her mother of American birth; both were of light complexion, with light-brown hair and light-coloured eyes. All their other children were of similar complexion, as had been also the patient up to her fourteenth year. Though not particularly robust, she had suffered but little from sickness; had never had the attendance of a physician but once, and that for measles. She had taken little or no medicine. Had regularly menstruated from the age of fourteen years, and without pain.

Soon after puberty some dark-brown spots were observed upon the forehead, which looked, at a little distance, as if covered with fine dust. These spots were not constant, nor did they attract much attention until they had been

present about two years. At the age of sixteen she had a slight attack of illness, and it was now noticed that her complexion was rapidly growing darker, and within a month or two it had acquired its present hue. These statements were confirmed by her parents, other relatives, and several reliable friends.

The entire surface was found to be of the same dark hue. At a short distance she presented much the appearance of a white person who had been painted with a thin coating of lampblack, through which some appearance of the original hue of the surface was apparent; with here and there spots, from a few lines to a fourth of an inch in diameter, which were as black as the skin of the darkest African. On removing the cuticle from one of these spots without drawing blood, a portion of the pigment scraped upon the point of a lancet had much the colour and appearance of lampblack mixed with mucilage.

The hair of the patient had changed from its original brown to black, and become coarse and straight. Her eyes were light hazel, the whites presenting that pearly appearance so peculiar to the coloured races. Every portion of the exterior was free from the slightest icterode tint. She was thought by her friends to be darker on some days than others; an effect, probably, of difference of light. Her mind was active, and had evidently been cultivated with much care. Her manners were gentle and agreeable. She complained of no pain except, occasionally, of a slight uneasiness immediately under the right scapula, which was aggravated by fatigue. Her appetite was good—her digestion easy and regular. She was not emaciated; slept well, could lay without uneasiness on either side or upon the back; had no cough, no palpitation of, or unpleasant feeling about, the heart; tongue, pulse, and respiration healthy. No disease of any of the organs could be detected upon the most careful examination. She exhibited slight nervous irritability, and some evidence of general weakness; less, however, than might be supposed to result from the anxiety and chagrin she could not fail to experience from the consciousness of her very singular appearance.

Soon after the discoloration became evident a physician was consulted, who induced ptyalism, but with no benefit, or, as her friends think, with the effect of making her worse and darker. Excepting this, she had taken no medicine excepting some simple bitter teas prepared by her friends, and the decoction of some roots sent her by a German quack. A bath of nitro-muriatic acid and water was used by her once or twice, without any apparent effect.

On the 1st of October, on returning from a funeral, she was suddenly attacked with nausea, vomiting, and purging, which continued, with little intermission, over three days; she was then seen by Dr. Gardiner, who found her in bed, lying heavily on her back; her pulse too frequent to be counted, and barely perceptible at the wrist; tongue dry and slightly furred; some thirst; extremities and entire surface cold. A pill of camphor, opium and camphor, was prescribed, with brandy, and sinapisms to the extremities; by these the patient was apparently relieved. The vomiting ceased, and the surface became warmer and more natural. The same treatment was continued; another pill being directed at the end of six hours. At the end of eighteen hours, the vomiting and purging had not returned; extremities warmer; pulse still scarcely perceptible; surface covered with perspiration—death from exhaustion soon after ensued.

There follows next an address "on human longevity," being the annual address delivered before the medical society of Albany County, by Dr. S. H. Freeman. The circumstances which most affect human health and lengthen out or cut short man's career this side the grave, are subjects of deep interest to every class of the community. To prevent disease and decay, to promote strength, and to prevent the waste of vitality in the human frame, is a more easy, certain, and agreeable procedure than to cure disease and repair its ravages and waste when it has once occurred. The subject of hygiene is, however, one as vast almost as it is important. In the address before us we have a few hints in reference to it in one of its many aspects—scarcely, however, touching upon, much less developing fully, the subject.

Under the head of the "Vice-President's Address," we are presented with a most voluminous and interesting table, running through some two hundred and

fifty-six pages, comprising carefully tabulated statistics of the private practice of Dr. THOMAS C. BRINSMADE, for the space of twenty-one years. The number of cases included in these tables is 37,872. Of these, 13,976 were zymotic; 1,047 constitutional; 19,883 local; 454 diseases of children; 1,328 diseases of women; 1,184 accidents; 157 unclassified diseases. Of the whole number of cases 15,731 were males, and 22,141 females. The greatest number of the cases, 11,022, occurred in summer; the next highest number, 9,454, in spring; the next highest number, 8,926, in winter; the smallest number, 8,470, in autumn. Dr. B. gives the ages of his patients from birth to one year, from one to five years, from five to ten years, and after that in decades. In the tables the number of cases of disease for each month of the year are arranged in separate columns, with the depth and number of rains, the prevailing winds, and the monthly mean of the thermometer, placed at the head of the columns.

The number of fatal cases recorded in these tables is 765, making the entire mortality a trifling fraction over two per cent. In reference to the mortality of particular diseases we find that the number of cases of *bronchitis* treated were 5,530, of which 7 proved fatal, or .001 per cent.; of *pneumonia*, 468, fatal 41, or .09 per cent.; of *croup*, 359, fatal 20, or .05 per cent.; of *scarlatina*, 585, fatal 37, or .06 per cent.; of *measles*, 459, fatal 3, or .007 per cent.; of *dysentery*, 809, fatal 27, or .03 per cent.; of *cholera infantum*, 392, fatal 48, or .12 per cent.; of *puerperal fever*, 2, fatal 1, or .50 per cent.; of *puerperal peritonitis*, 3, fatal 1, or .33 per cent.; of *puerperal convulsions*, 5, fatal 2, or .40 per cent.

The first of the tables of Dr. B. is designed to show the influence of the seasons on the miasmatic and pneumonic diseases.

"So far as heat is concerned, these two classes of disease are the direct antitheses of each other—the latter, the pneumonici, retiring as the vernal and summer heats increase—the former, the miasmatici, advancing or receding with the wave-tides of heat and humidity."

"In Table II. we have a striking exhibition of the influence of heat in developing the two miasmatic diseases, diarrhœa and cholera morbus, and its equally striking influence in diminishing the number of cases of the two great pneumonic diseases, bronchitis and pneumonia.

"An examination of the table will show that there has been, during the past twenty-one years, a constant increase in the number of cases of bronchitis, from January to March inclusive, though the range of the thermometer has been from 29° in January to 34° in March. Here is an apparent contradiction of our first deduction, that the number of cases of bronchitis lessened as the heat increased; but when we consider that February and March are the two most inclement months of the year, on account of the sudden and extreme variation of temperature, and the prevalence of high and long-continued winds, we find that sudden variations of temperature are more conducive to the disease than either long-continued heat or cold. But in May, when the thermometer has risen from an average of 34° in March to an average of 52°, we find the number of cases of bronchitis has diminished from 800, in March, to 520; and coincident therewith, we find an increase in the number of cases of diarrhœa from 125, in April, to 220. In June the thermometer indicates a mean temperature of 67°, an increase of 15° on the preceding month; and the number of cases of bronchitis has fallen from 520, in May, to 280, and the number of cases of diarrhœa has increased from 220 to 465. In July there is a further increase of heat of about 6°, and an increase in the number of cases of diarrhœa from 465 in the preceding month, to 1,120; and a coincident diminution of the number of cases of bronchitis from 280, in June, to 180 in July and August. This sudden increase in the miasmatic disease is to be attributed to the combined influences of long-continued heat and drought, and the prevalence of the south wind for the two and a half preceding months. With the decrease in the temperature in August, we have a decrease of 100 cases of diarrhœa; but it is not until October that the effects of the summer heats and winds have apparently exhausted themselves."

"In Table III., in which is presented a summary of all diseases treated during the twenty-one years, we find a constant increase in the number of cases treated from December to March inclusive, in which latter month is shown the

effects of high winds and sudden and extreme variations of temperature in an increase of nearly 400 cases, chiefly pneumonici, over the number treated in the preceding month, and a decrease of 250 cases over the number treated in April. In June there is a slight decrease, but in July there is a sudden increase of 1,000 cases over 3,160 in June, caused entirely by the greater prevalence of the miasmatici referred to in the preceding table and context. From this time on the number of cases constantly decrease with the temperature, until the minimum number of cases is reached in November. The minimum of temperature is reached in January, and is signalized by an increase in the number of cases, chiefly pneumonici."

If every physician would keep accurate records of his practice, and arrange and publish them, say every five years, in the form of those presented in the volume before us, by Dr. Brinsmade, within a very short time we should be put in possession of the materials for the most reliable statistics on many important points connected with the history and etiology of disease. Full and excellent as are the tables of Dr. B., with a very little additional labour they could be made to embrace many important particulars which he has omitted.

The next paper of general interest is the history of a case of enormous diffused traumatic aneurism of the axilla in a man 57 years of age, from subcutaneous rupture of the artery caused by dislocation downwards of the head of the humerus, in which the subclavian was ligated; the operation being followed by repeated hemorrhage from the wound till the forty-first day subsequently; finally, suppuration of the aneurismal tumour with hemorrhage occurred, with final recovery, related by Dr. REED B. BONTECOU.

The interesting features of this case are thus summed up by Dr. B.

"The novel manner in which the aneurism was produced, its large dimensions, elevating the clavicle and rendering the operation difficult. First distinct pulsation in radial artery detected twelve days after the operation; separation of ligature on the ninth day after operation; secondary hemorrhage sixteen days after operation, and seven days after the separation of ligature. The repeated recurrence of hemorrhage during twenty-six days; extensive inflammation of the neck from pressure; the inefficacy of perchloride of iron as a styptic; the suppuration of the sac and hemorrhage from it; and the almost complete paralysis of sensibility and motion in the arm."

A description and delineation of Dr. Sims' uterine elevator follows, and then a description and delineation of Dr. Armsby's instrument for the radical cure of inguinal hernia, which closes the professional papers of the present volume.

In relation to Dr. Armsby's instrument its object is to introduce a single thread, as a seton, through the hernial sac and inguinal canal, with the view of inducing inflammation, adhesion, and occlusion of the sac and canal up to the internal inguinal ring.

A hollow curved metallic instrument, fixed in a handle, with a smooth rounded point, having an opening just below the point, is passed, after the reduction of the hernia, into the inguinal canal, so as to carry before it the skin of the scrotum and the hernial sac, as far as they can be made to go with ease. A properly formed needle, with an eye near its point, is passed into the instrument and made to project at the aperture near its end, and perforate the soft parts in front of the internal ring, when the needle is to be threaded and withdrawn. It will, of course, leave the thread or seton within the entire length of the sac and canal—one end coming out through the skin above and in front of the internal ring, and the other at the lower part of the scrotum. A truss is applied for a few hours; inflammation quickly ensues, which may, if necessary, be increased from time to time by moving the thread. The patient is to remain for at least one week in a recumbent position, and the seton is to remain from eight to twelve days.

2. The proceedings of the sixty-sixth annual convention of the *Connecticut Medical Society*, held May, 1858, present us, after the minutes of its proceedings, with the annual address of the president, Dr. BENJAMIN HOPKINS CATLIN. This is an able and manly production. Its leading theme is the nature, extent, object, and aim of legitimate medicine, and its claims upon the respect, con-

fidence, support, and protection of the community, for whose benefit its professors labor—for whose good they suffer—for whose defence from pestilence and death, and for whose succour in the season of sickness and suffering they are ever willing to forego ease and comfort, and to risk at the post of duty even life itself.

Several reports, chiefly of local interest, follow the address of Dr. Catlin. Among these, that of Dr. E. K. Hunt, in relation to the registration of births and deaths, showing the duty which physicians owe to themselves and the public, to aid in the accomplishment of such registration in the most complete and satisfactory manner; and pointing out the advantages they will derive from the facts developed by a full and correct registration, in their efforts to prevent disease, based upon the acquaintance they thus acquire of its favourite localities and subjects, its endemic causes, and of the circumstances connected with individuals, predisposing them to its occurrence. The short sanitary report of Hartford County, by Dr. A. W. Burrows, will also be read with pleasure and profit.

The next paper is on "puerperal convulsions," by Dr. C. A. Lindsley. In this dissertation, while we meet with nothing absolutely new, the summary given by the author of the pathology and treatment of puerperal convulsions is marked by good sense and sound judgment. The subject, however, is not examined in all its length and breadth.

Dr. L. points out the radical error committed by our leading medical writers in locating the immediate cause of puerperal convulsions in the brain, when all modern investigations and observations go to establish the fact that the entire class of spasmodic and convulsive diseases belong to the spinal cord, the medulla oblongata, and tubercula quadrigemina. He denies that, as a general rule, the convulsions in this disease are dependent on encephalic engorgement and effusion; it being more than probable that both the engorgement, and the effusion into the ventricles, and between the membranes of the brain are results—consequences of the disease and not its cause. It is true, Dr. L. admits, that occasionally the reverse of this is true. If, during the violent exertions of the propulsive stage of labour, rupture of a bloodvessel occurs, giving occasion to effusion of blood, and, as a consequence of this, counterpressure upon the medulla oblongata ensues, convulsions may be the result of the accident; but, if in the course of a paroxysm of puerperal convulsions resulting from irritation of the os uteri, rupture of a bloodvessel with effusion of blood in the brain takes place, instead of being the cause, the rupture and effusion are in this case clearly the result of the disease. This is true whatever may be the relative extent of the effusion in the two cases, and though in both it should occupy the same locality.

The causes of puerperal convulsions, Dr. L. very correctly concludes, must be such as act immediately upon the spinal cord, the medulla oblongata, or tubercula quadrigemina, or which are transmitted to it from the extremities of the excito-motor nerves—centric or eccentric causes.

Dr. L. points to the fact of the almost invariable presence of albuminuria in cases of puerperal convulsions—the exceptional cases are so rare as to render the inference irresistible of a relation more or less intimate, of cause and effect, between the two facts—albuminuria and convulsions.

"Nor is the hypothesis, that the diminution of albumen in the blood and albuminuria are necessary conditions of eclampsia, at all inconsistent with the fact that seven-eighths of the cases of eclampsia have occurred in primiparous women. Because, in first pregnancies, the greater resistance of the abdominal parietes causes the uterus to be more strongly applied to the posterior walls of the abdomen, compressing the renal vein, causing congestion of the kidneys, obstructing the venous circulation, and forming a mechanical obstacle to the regular fulfilment of the functions of the neighbouring organs, and thus bringing about the very organic conditions most favourable to the production of albuminuria. So, also, women affected with rachitis are more liable to convulsions, because of their deformity and the limited space within the pelvis. The necessary compression which attends the development of the uterus disposes to the same result. Hence it would appear from the constant concurrence of albumi-

nuria and eclampsia, that the altered state of the blood—which is a necessary consequence of long-continued albuminuria—is a direct irritant of the spinal axis, or, if not the sole excitant of the spasm, renders that organ more susceptible to the influences which reach it from other sources."

Speaking of bloodletting, which is the leading, almost the only remedy relied upon by medical writers for the relief of an attack of puerperal convulsions—and which, by many, is directed to be pushed to a most profuse extent—Dr. L. admits that, in the majority of cases, it is very strongly indicated, for the relief of the bloodvessels of the brain, as well as on account of its sedative action on the spinal system. He considers it curative so far as its effects upon the spinal cord are concerned, and preservative in reference to its effects upon the brain.

"In fulness of the vascular system, bloodletting, besides diminishing the impressibility of the *central* organ by rendering it less susceptible to incident irritation, relieves also the surcharged condition of the cerebral vessels, obviates partially the immense pressure to which those vessels are subjected during the fits, diminishes the danger of rupture and effusion, and removes the counter-pressure from the medulla oblongata. It is because of these prompt and marked effects that the remedy has been so uniformly recommended and practised in all cases. But, while it is often a sufficient remedy for simple convulsions, depending on a turgid state of the circulation, great discrimination and careful judgment are requisite, not only in limiting it within safe bounds, and in detecting indications for other treatment, but also for determining whether in some cases it will not be injurious instead of curative. If bloodletting is indicated for the reasons which have been mentioned, it is perfectly evident that it is contraindicated, and would prove extremely dangerous, in cases where those reasons do not exist; that in delicate anæmic women, copious depletion would be an additional cause of convulsion, because, as has been shown, deficiency of blood is an irritant of spinal action. It is, however, too much the fact that the constant teaching of the books, combined with the absence of positive knowledge of the true seat and etiology of the disease, has led to the blind and indiscriminate routine of bleeding every poor patient perchance to—I had almost said to death—or perchance to life, as chance alone decides—the chief guide of practice being the continuation or cessation of the fits."

"To bleed is the rule, absolute and imperative—bleed, bleed—no matter what the condition of the patient. No effort is directed to discover any cause of spinal irritation, which should be removed; the patient has fits; therefore bleed her. No matter if the stomach is loaded with indigestible food, or the bowels with hardened feces. No matter if the bladder is distended to bursting. No matter what the state of the uterus, or what the condition of the vascular system, the rule is still arbitrary—bleed boldly and fearlessly. Now this is rank and rash empiricism, and in the present state of physiological knowledge, inexcusable. And yet, there can be no doubt that many practitioners, influenced by the teachings of the books, have carried depletion to a fatal excess, and even practised it when it ought to have been altogether avoided. It cannot be questioned that if carried beyond proper limits, bloodletting is itself a cause of convulsions."

"It would appear, then, that after the circulation is reduced, either by proper depletion, or from other causes, to somewhat below par, bloodletting acts no longer as a sedative, but becomes itself a most certain irritant of the spinal system. The *continuance* of convulsions, therefore, is not a reliable indication of further bleeding; but the state of the circulation in the interval of the fits, is the only proper criterion, regard being had to the different effects of an engorged and an empty state of the spinal vessels."

Based on the fact, pointed out by Dr. Marshall Hall, that in all cases of true convulsions the glottis is wholly or partially closed, causing an increase of both the cerebral and spinal congestion, and the several cases on record in which the simple excitation of a full inspiration has prevented the occurrence of a convulsive paroxysm, Dr. L. suggests the dashing of cold water in the face in cases in which puerperal convulsions are threatened. The sudden shock produced by this means, in consequence of its reflex action on the respiratory

muscles produces an involuntary inspiration, thus opening the glottis and relieving the nervous centres from their state of congestion. Denman gives the history of a lady, whose every labour-pain was attended by a convulsion; but by sprinkling the face with cold water at the commencement of each uterine contraction, the convulsions were prevented, during the remainder of the labour. So simple a remedy can do no harm, and even if it does not prevent a convulsion it takes off a great amount of vascular pressure from the nervous centres, and lessens the amount of venous blood in the system every time it uncloses the glottis.

Dr. L. suggests, also, the application of cold water to the head. In a continued stream its application lessens the distended state of the cerebral circulation and relieves, thus, the counter pressure upon the intercranial portion of the spinal system. In the form of douche it would tend to excite an inspiration and thus dilate the glottis. When applied along the spine it should be continuous, because the intermittent application excites instead of allaying irritation.

Opium and its preparations have been vaunted by several writers as constituting a remedy of great efficacy in puerperal convulsions. Dr. L. considers the opium to be proper only after bleeding, or in cases attended with a state of exhaustion and anæmia—under such circumstances, it acts as a sedative, whereas, in patients of a plethoric and vigorous habit, it acts as a stimulant of the spinal cord.

In relation to the means adapted for the removal of the eccentric causes of puerperal convulsions, or those which affect the peripheral extremities of the incident excitor nerves, Dr. L. remarks:—

"Numerous instances attest the fact that large accumulations in the stomach or intestines, whether of food, or feces, or worms, or foreign bodies, excite the disease by the irritation they induce being transmitted to the central organ, thus giving rise to convulsions by reflex action. The removal of such offending substances is obviously demanded whenever they are found to exist. But the manner in which it should be accomplished is important. There can be but little difference between irritant drugs and irritant feces, and yet the most drastic purgatives are unceremoniously exhibited, which too often is only to change one cause of irritation for another. The prolonged effect of powerful cathartics upon the surface of the intestines already irritated to the highest intensity, must be anything but favourable. It is but fair to presume that copious injections of simple water would be quite as effectual, and vastly safer, inasmuch as they are more rapid in their effect, and do not remain to fret the bowels after their mission is accomplished. Their action might be assisted, if necessary, by the addition of castor oil or turpentine. If indigestible food, or an overloaded stomach excite the fits, an emetic of the sulphate of zinc should be administered. If the subject, however, is plethoric, venesection should precede the emetic, on account of the increased distension of the cerebral vessels in the effort of vomiting. Mr. Vines mentions a case of convulsions which, after resisting for two days all the usual remedies, including delivery, ceased immediately upon withdrawing from the bladder five and a half pints of turbid and highly ammoniacal urine. This case shows the necessity of attention to that organ."

It is, however, in the uterus and uterine passages, as Dr. L. observes, that reflex irritation acts most energetically and with the greatest intensity. In consequence, the question as to the propriety of delivery becomes one of importance. The rule laid down by the author is, that if the condition of the mother is perilous, and the continuance of the child in the uterus or passages will be evidently productive of more irritation than would be caused by a resort to manual or instrumental interference, then artificial delivery should be resorted to, as soon as the condition of the os uteri will permit. Dr. L. admits that this rule is indefinite, inasmuch as the conditions upon which it is based are only approximations. The amount of irritation in either case not being constant quantities, an accurate comparison cannot be made. Nor is it possible to lay down a definite rule applicable to all cases; the peculiarities of each case being such that no rule can cover them.

The two succeeding papers—the one by Dr. CHARLES L. IVES, presenting a sketch of human embryology; and the other, by Dr. L. S. PADDOCK, on the surgical diseases of the rectum—are both interesting and instructive productions. They point out, it is true, no new facts, nor give any new deductions from the facts already known; their object is simply to afford a concise and accurate summary of the actual state of our knowledge in reference to their respective subjects.

The proceedings before us close with biographical notices of Drs. W. C. Williams and John S. Peters. The latter was at the period of his death, among the oldest of the physicians of Connecticut; being born in Hebron, in that State, in 1772. He attended lectures in Philadelphia, in 1796, and settled as a physician in his native village, in 1798. His death took place in March, 1858, in the 86th year of his age. Throughout the United States there are but here and there remaining a solitary survivor of those physicians who entered upon their professional career previously to the commencement of the present century; even of those whose birth took place during the early period of the nineteenth century, but very few, comparatively speaking, survive.

3. The *Transactions of the Ohio State Medical Society*, at its meeting of June, 1857, commence with the valedictory address of Dr. Peter Allen, the retiring President. The subject of the address is the past and present condition of the medical profession in the State of Ohio, which is treated in a pleasing, lively style. This address, without being very profound or erudite, is replete throughout with good sense and the deepest interest.

The report of the Committee on Obstetrics, by Dr. J. G. F. HOLSTON, discusses in separate chapters the history of midwifery in Ohio, its theory and practice; comprising a consideration of "the frequency of midwifery" and natural labour; tedious and difficult labours, more particularly in reference to ergot as a remedial agent; statistics of natural and preternatural labours; the diseases of puerperal women; and obstetrical literature and education.

In the first chapter, Dr. Holston presents a very lifelike, humorous picture, somewhat in the Flemish style, of the different species of female practitioners who first usurped the practice of obstetrics in the primitive times of Ohio, with a sketch of their several modes of procedure; for it is a historical truth that these rural priestesses of Lucina were of different sects, each having its own peculiar theories, superstitions, dogmas, and practices.

Dr. Holston would appear to be a firm believer in the possibility of a mental shock received by the mother during pregnancy, causing the fœtus in utero to be marked in a manner corresponding with the cause by which the shock was produced.

We regret to see gravely mooted, in a report to a learned society, embracing the medical talents and experience of an entire State, the question as to the power of certain impressions made upon the nervous system of the mother imparting marks of a definite, or indeed any, character upon the person of the fœtus in utero. The fact is disproved by so conclusive a chain of reasoning, that the few occasional instances of remarkable coincidences, like those adduced in the paper before us, present not the slightest valid evidence in its support. We have our doubts, also, as to "violent motions" of the limbs of the fœtus in utero being the result, as Dr. H. supposes, of impressions made upon the mother's nervous system. The sensations attributed to the movements of the fœtus before birth may certainly be rationally accounted for without the necessity of supposing that any movement whatever on its part takes place.

In respect to the employment of ergot in obstetrical practice, Dr. H. remarks: "All who admit its power consider it perfectly safe to the mother, in cases properly chosen. Not so, however, to the offspring; the majority believing that its employment increases the number of stillborn infants by a fearful rate—from fifty to one hundred per cent. even; which is by no means to be wondered at, as the contractions produced by the drug are of a continuous character, never for a moment allowing the fœtal head to recover from that compression which it must necessarily suffer in passing through the maternal pelvis. We cannot better close this paragraph than by some extracts from reports of Dr.

Gaston, of Morristown, whom thirty-one years of practice (*he never lost a mother*) renders somewhat of authority on that subject. He says: 'I have frequently employed ergot in difficult labours, and I am not aware that I have seen deleterious effects to the mother from its use; but it is far otherwise in regard to the child. Whether ergot kills the child or not, I do not know; but I *do* know that, in the majority of cases in which I have used it, or seen it used by others, the child was stillborn. So fully has my experience with it convinced me of its deleterious effects on the child, that nothing but stern necessity can induce me to use it.' The experience of Dr. Schertzer, of Massilon, deduces similar results from a practice of thirty-one years. O. D. Palmer, M. D., of Zelienople, Pa., says: 'Ergot has produced a powerful effect in every case in which I have given it, except one that was supposed to be rupture of the uterus. It has been perfectly successful in every case of placenta prævia where it was administered, causing one continued, persistent contraction of the uterus, thereby preventing flooding till all was delivered. In every case where I gave it a half hour *only* before delivery, the children were dead, and in *every other* case asphyxiated. . . . . I only use it now, and have for several years, in flooding following delivery, where I have always found it successful.'"

"I resort," says Dr. McMeens, in a communication to Dr. H., "but rarely, of late years, to the use of ergot during the process of parturition, as I believe the special indications demanding its aid are seldom sufficiently conjoined with all other circumstances to render it entirely unobjectionable. Lingering labours from uterine inertia alone are comparatively rare, and when the result of rigidity of fibre, structural resistance, or mechanical obstruction, it can only serve to aggravate or embarrass delivery in a large proportion of cases. Such has been my experience. And again, I have been disappointed in procuring a prompt display of its powers when most urgent, and subsequently experienced an explosive exhibition when no necessity for its action existed. I generally confine its administration to those cases where hemorrhage precedes, attends, or supervenes on labour. Of its possessing any peculiarly pernicious influence upon mother or child, I have witnessed no unequivocal evidence beyond the production of a severe *hysteralgia* when it had been improperly taken to procure abortion."

Speaking of puerperal fever, Dr. H. refers to the prevalence of the "black tongue fever, or malignant erysipelas," that some seventeen or eighteen years ago desolated the State of Ohio, and to the conjoint prevalence of puerperal fever. In some districts scarcely a single child-bearing woman escaped. In certain of the epidemics of puerperal fever the disease has been confined almost exclusively to the practice of a single physician. Dr. Holston was cognizant of an instance of this kind, which occurred, some years ago, in a city of central Ohio. A physician of high standing in the community was said to have lost some twenty patients in a few months, while no unusual mortality existed in the practice of his colleagues.

Passing by the short report on microscopes and microscopy, and the biographical notices of Drs. Milton Green and D. A. Fisher, deceased, members of the Ohio State Medical Society, we come to the report of the Committee on Surgery, by Dr. JOHN DAWSON.

This report presents a concise review of the present condition of surgery. It is marked throughout by good sense, and sound observation. In the perusal of it much will be found to interest and instruct. Under each of the heads into which the report is divided, especially those devoted to a consideration of the mechanical or operative department of surgery, and its scientific and pathological principles—the prognosis of operations, and the mortality attendant upon them—the alleged success of American operators, and the inquiry as to what percentage of favourable results will justify an operation, many judicious remarks and suggestions will be met with—which, if they cannot, all of them, lay claim to entire originality, are, at least, presented in a form and connection calculated to exhibit their true bearing and importance, and to impress them forcibly upon the attention of the reader. We only regret the circumstance of the entire report being of such contracted limits as to preclude the possibility of the author doing entire justice to himself or to his subject.

The next paper is "a short history of the veratrum viride," by Dr. JOHN G. KYLE.

As a remedy in all acute affections the veratrum viride is beginning to attract the attention of physicians in many portions of the United States. By most of those who have tested its curative powers, it is spoken of in terms of praise. Some believe it to be capable of superseding entirely the use of the lancet in certain of the phlegmasiæ, and of producing a beneficial impression on the disordered state of the circulation in affections in which general and local depletion are both inadmissible.

The most prominent effect produced by the veratrum is a very certain, decided, and permanent reduction of the pulse in frequency. According to Dr. K., it possesses this power over the circulation in a greater degree than any one, or, perhaps, all other remedies combined, for which the same property is claimed.

"The great duty of the physician," Dr. K. remarks, "is to subdue all diseased action speedily and with safety to the patient. We know of no article capable of meeting these indications with so much ease, certainty, and safety to the patient, as the *veratrum viride*. By its narcotic powers the pain and irritability are greatly moderated, if not relieved; by virtue of its emetic powers a sudden shock and impression is made on the system, and if a resolution or crisis is not produced, the pyretic symptoms are greatly abated; and, in addition to the general shock, there is a series of new actions and impressions excited, which are of great service in counteracting the disease, and changing the secretions and excretions. It is powerfully nauseant, thereby aiding expectoration, which in an eminent degree assists the capillaries in relieving themselves of their engorged condition."

"To recapitulate, it is actively emetic, but does not occasion a great secretion of bile, but produces free mucous or serous discharges. It induces an unusual degree of paleness and coldness—more or less moisture of the surface—a sense of great exhaustion or dissolution—occasionally a slight and pleasant delirium or hysteria. The pulse is slow, full, and distinct."

Dr. Kyle recommends a tincture of the veratrum to be made by digesting *eight* ounces of the bruised root in one pint of alcohol. Of this he generally gives, at first, ten drops for a dose, repeated every two or three hours; increasing each succeeding dose by one to five drops, until nausea, emesis, or a reduction of the pulse takes place. The size of the dose is then to be lessened, or the intervals between the doses increased, so that it can be borne. To relieve any unpleasant effects that may happen to result from the use of the veratrum, according to Dr. K., a mustard plaster to the spine and extremities—a little syrup of morphia and tincture of ginger internally, with a suspension of the use of the article, is all that is required.

"We would feel as awkwardly situated," says Dr. K., "and as much unprovided for the treatment of pneumonitis, without this article, as we would if we were deprived of cinchona and its preparations in the treatment of intermittent and remittent fevers. We are of opinion that it will prove a valuable agent in the treatment of many inflammatory affections, as gout, rheumatism, peritonitis, &c."

We find next a report on the topography, hydrography, geology, meteorology, mortuary statistics, and the endemic and epidemic diseases of Sandusky, Ohio, by Dr. R. R. MCMEENS. This is a very good report—somewhat superficial it may be on some of the important particulars embraced in it—but it presents no especial points of general interest that claim our notice.

A report from the Committee on Medical Literature, by Dr. WM. J. SCOTT, follows. A few remarks towards the close of this report, on the medical periodical literature of our country, comprise nearly the whole of it, that is devoted to the legitimate subject of the committee's labours.

The report next in order is on uterine diseases, by Dr. R. MCMEENS. It is made up chiefly of four interesting cases. One of hypertrophy of the womb, with excessive flow of the catamenia—mistaken for a case of polypus uteri.

"The novelties of this case," Dr. McMeens remarks, "consist in the nature of the exciting cause, the alternations of hyperæmia which take place, and the

pathological character of the uterine hypertrophy. If it were a case of uterine polypi there should have been some manifestation of their existence before so long a period of time had elapsed, and some interruption or supervention of the menstrual profluvia as well as an aggravation instead of amelioration from active exercise. As to the other phenomena, there appears to be an undue vascular determination to the uterus, increasing its vascular capacity, and requiring an unusual accumulation of blood to be discharged at each ovulatory emission, and resulting in a degree of permanent enlargement of the organ by interstitial deposit and muscular development."

The second case is one of intractable dysmenorrhœa, commencing before marriage and continuing subsequently. Under every conceivable mode of treatment the utmost benefit derived from any was merely temporary relief.

The third case is one of intense hysteralgia excited by the use of ergot taken with a view to the production of abortion; while the fourth is one of extensive vesico-vaginal fistula, caused by unpardonable malpractice in a resort to instrumental interference merely to gain time, and the utmost want of skill evinced in the choice and application of the instrument employed.

A paper "on chloroform" is next in order. The author is Dr. R. Thompson, who, very properly, urges extreme caution in the employment of the article. When the chloroform produces a state approaching to asphyxia, which Dr. T. supposes to depend always on the diminished action of the heart, and the consequent inadequate supply of blood to the brain, he believes that the fatal results which are reported as having occurred, are to be attributed mainly to the want of a resort, to "the very simple and ready expedient of laying the patient down with his head lower, if possible, than his body, at the same time commencing a uniform, rather *pouncing*, operation upon the chest, which should be continued until the air-cells of the lungs are freed from the vapour, so as to admit a supply of pure atmospheric air, which is all that is necessary to restore a sufficient degree of vitality to the brain to re-establish and sustain the action of the heart, with all other partially suspended movements."

What the author means by a "pouncing" operation we are at a loss to determine. The verb "to pounce" signifies, primarily, *to seize with the talons or claws:* it is often, however, applied to the quick, sudden movement, or swoop, with which a bird of prey darts upon its victim. We cannot understand how, in either sense, it can be employed to indicate the nature of manipulations that would be calculated to relieve the lungs from any vapour of chloroform they may contain.

The paper of Dr. Thompson appears to have been called forth by the case of Mrs. Morgan, who died in Boston, according to the verdict of the coroner's jury, from the effects of chloroform. In rendering this verdict, the jury considered it to be their duty to warn the public against the use of chloroform as a dangerous anæsthetic agent.

Dr. T. believes that the death of Mrs. Morgan is to be ascribed less to the effects of the chloroform than to the neglect of the proper measures to insure her resuscitation. He deals out to the coroner's jury a merited rebuke for their officiousness in travelling beyond the strict line of their official duties to give advice to the public on a subject in relation to which they were totally incapable of judging.

A very sensible paper on moral insanity, by Dr. Edward Mead, closes the strictly scientific contributions contained in the present volume of *Transactions*. It is a very sensible well written essay. We cannot say, however, that it casts any additional light upon the very obscure subject of moral insanity—in the restricted sense in which the author defines the term—namely: "a disorder or diseased condition of the moral feelings or affections, without necessarily involving any disorder of the intellectual faculties."

That cases do often occur in which insanity is observable only in one or other or several of the moral feelings or affections we are by no means inclined to deny. A number of such cases are on record, and well authenticated. We have, ourselves, met with many. Moral insanity may, in fact, be considered as one of the most common of the forms of insanity. The majority of those whom the world denominates wicked—the incorrigibly depraved and sinful—

many of "the fast young men and women" of our day, are no doubt to be viewed, strictly speaking, as morally insane.

Moral insanity "may be justly considered," as Dr. M. very properly remarks, as the most important of the mental diseases, inasmuch as it is destitute of those outward manifestations which distinguish the outbreak of other varieties, and which seem to be necessary to satisfy the scruples of the unscientific observer. In consequence of thus being unappreciated, it fails to arouse that feeling of sympathy and commiseration for its unfortunate victim, which are manifested by the humane towards those attacked with other varieties of insanity. It is often the occasion of intense suffering to the patient himself, of distressing anxiety to his friends and relatives, and of danger to the reputation, property, or life of those who inadvertently become the victims of his extravagant and unreasonable conduct.

The legal responsibility of the morally insane is a question of deep interest; it is not, however, formally touched upon by Dr. M., and we have no desire to enter now into an examination of it.

4. The *Transactions of the Belmont Medical Society* commence with an essay by Dr. J. G. Afflick, on a most obscure, but, at the same time, most important subject—mind, and its insanity. The essay occupies only twelve small duodecimo pages, printed in a large sized type; it is not to be expected, therefore, that the writer can enter very deeply or fully into a subject that has occupied the attention of some of the profoundest and clearest thinkers of past and present times. The first lines even of mental philosophy and pathology are scarcely touched upon by him.

Dr. Afflick is an out and out materialist. That man is altogether a material organization he has not a doubt. That the soul itself is a mere form of matter, must, he thinks, be conceded, according to all the principles of our reason. It would seem to him that mind is a part of the body, and as much subject to the laws which govern the latter as "the secretion of bile is of the liver." Hence, as we cannot expect healthy bile when the liver is diseased, neither can we expect healthy thought when the brain is deranged.

We shall not attempt within the restricted limits afforded by the bibliographic department of a periodical journal to examine the validity of the position assumed by Dr. A. in relation to the nature and manifestations of mind; its inherent powers, and its true relationship to the material universe, nor to inquire into the correct theory of its abnormal manifestations. To do so would be as presumptuous on our part as it was on his, to hope, within the compass of a few short paragraphs, to treat of the intellect of man and its several aberrations.

That the integrity of the mental functions are at all times intimately dependent upon the integrity of their material organ, the brain, we need not hesitate for a moment to admit. There can be no doubt that whatever deranges the physiological condition of the brain deranges, also, to a greater or less extent, the manifestations of mind, by disturbing or impeding its operations, but that no derangement of the mental operations can take place excepting as a consequence of cerebral disease, direct or indirect, is an assumption altogether destitute of any positive proof, and inconsistent with several of the forms and phenomena of insanity—while it leads to serious errors in the treatment of mental diseases generally.

The second article in these Transactions is "remarks on the medicinal virtues of the tincture of veratrum viride, with two illustrative cases," by Dr. E. Gaston.

It is in reference to the powers of the veratrum viride, as a remedy in pneumonia alone, that the observations of Dr. G. refer. In this disease he believes it to be a curative agent of considerable power, and well worthy of the careful study of the profession. In one of the cases detailed—pneumonia of the right lung—the use of the veratrum was preceded by a pretty copious bleeding, and the administration of calomel in combination with nitre and tartarized antimony. In the second case, with the exception of a few doses of nitre and an-

timony, the veratrum appears to have been the only medicine employed. Both cases terminated favourably and within four days after the veratrum was commenced with. If these were truly cases of genuine pneumonia, which, we must say, there is great room to doubt, they speak loudly in favour of the curative virtues of veratrum viride in that disease.

The next article is "observations on the use of ergot as a hæmostatic and abortive," by Dr. J. G. Afflick.

According to the experience of the author, not only does the ergot act well as a hæmostatic previously to delivery, but it possesses also "a supreme power" in the control of post-parturient hemorrhages. Whenever the system becomes fully imbued with the ergot, his observations confirm him in the opinion that there is little to be dreaded from the occurrence of flooding.

"There is no medicine in the whole materia medica," remarks Dr. A., "that has been so indiscriminately used as ergot. I know physicians, with whom it is the alpha and the omega" in cases of uterine hemorrhage, (?) "disregarding all symptoms. Such a blind practice is certainly very censurable; and, of a consequence, in the long run, must be productive of much mischief; for I hold it as an incontrovertible axiom, that, in midwifery, where labours are natural, the less you interfere the better. Other physicians tell you that in all cases, ergot is sure death to the child. This is not my experience. I have given it in every form, and under all circumstances, and I feel warranted in saying that the charge of infanticide, from this cause, is groundless. I would agree that where the system of the mother has become saturated with the medicine for a long time—where she may have taken it as her daily bread, that injurious effects may be produced, tending to the destruction of herself and fœtus; but that a few doses, or that a continuation of it for two or three days will bring forth a stillborn child, is, with me, a ridiculous assertion. I say this after thirty years' experience with the drug."

Now, one of two things is very evident, either we do not understand Dr. A., and it is certain that his language is none of the clearest, or Dr. A. does not understand the true grounds upon which all experienced obstetricians object to the use of ergot as a facilitator of labour, excepting under particular circumstances. That a resort to ergot in cases and at a stage of labour unadapted to its use is calculated to produce much and serious mischief, including even the destruction of the child, has been proved beyond the possibility of doubt.

As an abortive during the early, and even to a somewhat advanced period of utero-gestation, we have not the slightest confidence in the ergot. With Dr. A. we have known it, in several instances, to be taken for the purpose of causing abortion in large and repeated doses, for days at a time, without its producing the slightest effect upon the uterus, the woman passing through her pregnancy without accident, and being delivered at the proper time of a strong, healthy child.

We are next presented with reports by Drs. Campbell, Estep, and McBane, of the case of a young man between sixteen and seventeen years of age, whose leg was amputated on account of a tumour. The so-called tumour consisted in a very great enlargement of the entire left leg and foot, but most prominent at the upper five or six inches of the limb. The swelling, the surface of which was irregular or lobulated, had a doughy or cheesy feel. The cuticle was covered with numerous small vesications, and of a pale pinkish hue, and rather cool and clammy. Intense pain was experienced by the patient along the shaft of the tibia to the ankle; the pain being increased by motion.

In the course of eleven days the tumefied limb was less warm, of a darkish-brown in some places, and in others of a leaden hue. At the seat of an incision, which had been made some time previously in the tumour, sphacelus had commenced. The patient was greatly emaciated; his lips blanched; his pulse very frequent, small, and feeble; his tongue slightly coated; his bowels inclined to diarrhœa; his appetite moderate and failing.

Amputation was decided upon as presenting the only probable means by which the life of the patient could be preserved. It was accordingly performed under the influence of chloroform, and at the end of thirty-three days subsequently the patient was, to all appearance, entirely well. On the sixty-first

day after the operation the patient, in consequence of very imprudent exposure, took cold, pneumonic symptoms set in, and, at the end of twenty-seven days, death took place.

An incision down the anterior tibial surface of the amputated leg to the bone gave escape to about three pounds of a dark, muddy-coloured, sero-purulent fluid, while a longitudinal incision through the posterior muscles of the leg laid bare a number of cavities, some filled with the same kind of fluid as above, and others with laudable pus. In cutting through the deep-seated muscles a large sac was opened containing some three or four pounds of coagulated blood, with some light-coloured fibres running through it. The coagulum had an irregular or lobulated form, and very much resembled, according to Dr. Cobb, a hog's brain, in colour, shape, and size. At its upper and inner part were several portions of sequestrum, one side of each having a worm-eaten appearance.

In consequence of the very loose, superficial, and unscientific account which is presented of it by all the gentlemen connected with this case, it is impossible for us to arrive at any positive or satisfactory conclusion as to the true character of the disease with which the amputated limb was affected. Of the propriety of the amputation we think, however, even judging from the very imperfect description of the pathological appearances with which we are furnished, there cannot be a doubt.

The report on "the improvements in medical science," by Dr. Wm. Estep, which is next in order, presents a concise summary of a few of the more recent additions made to our therapeutical agents. It requires no particular notice.

The remainder of these Transactions consists in an account of a trial of a mother for child murder, and another of a trial of a medico-botanical practitioner for mal-practice. Neither presents any points of especial interest.

The murder of the child, after it had been born and breathed, by an incision with a cutting instrument from ear to ear, and down to the vertebræ—dividing the trachea, muscles, œsophagus, arteries, veins, and nerves of the neck—appears to have been proved beyond the possibility of doubt; as well, also, as the privity and consent of the mother to the murder, even if she did not herself commit it.

The defence of the prisoner was based mainly upon the plea of unaccountability, because of her insane state of mind both before and subsequent to the birth of the child. We confess that the evidence in proof of such insanity strikes us as particularly loose and inconclusive. The plea of insanity is now advanced in almost every case of felony brought before our courts; it is all important, therefore, that the evidence presented in its support should be clear, positive, and conclusive, so that the ends of justice shall not be frustrated, on the one hand, by the clearance of the guilty on a false plea of moral unaccountability, nor, on the other, the cause of humanity wounded by the conviction of those whose mental condition is evidently such as to render them guiltless of any premeditated and malicious act.

The verdict of the jury in the case just referred to is a curiosity of its kind. They find unanimously: "1st. That the prisoner was not proven guilty beyond a reasonable doubt; 2d. That the probable hypothesis was that the husband of the prisoner committed the murder; and 3d. That if the prisoner was the murderer, she was not of sane mind at the time the act was committed." They, therefore, returned a verdict of "not guilty."

The most remarkable feature in the second case is, that the jury actually found the medico-botanical practitioner guilty of mal-practice, and mulcted him in damages to the amount of three hundred dollars. D. F. C.

ART. XIX.—*Reports of American Institutions for the Insane.*

1. *Of the New York State Lunatic Asylum, for* 1857.
2. *Of the New York City Lunatic Asylum, for* 1857.
3. *Of the New Jersey State Lunatic Asylum, for* 1857.
4. *Of the Friends' Asylum, Philadelphia, for* 1857.

1. FROM the report of the New York State Lunatic Asylum, we take the following summary of the medical history of that institution during the fiscal year terminating with the 30th of November, 1857:—

	Men.	Women.	Total.
Patients at the beginning of the year . .	231	230	461
Admitted in course of the year . . .	129	106	235
Whole number	360	336	696
Discharged, including deaths . . .	122	123	245
Remaining at the close of the year .	238	213	451
Of those discharged, there were cured .	41	54	95
Died	24	8	32

Causes of death.—Exhaustion from mental disease, 12; phthisis pulmonalis, 8; epilepsy, 4; general paralysis, 3; apoplexy, 2; suffocation, 1; phlebitis and metastatic abscesses, 1; typhoid fever, 1.

In each of the cases of general paralysis (*paralysie générale*), "the disease brought to its close a life of long-continued intemperance and debauchery." The death by suffocation was that of an aged and feeble man. "In taking his food voraciously, a piece of meat lodged in the pharynx, and death took place before assistance could be rendered."

"It is gratifying," says Dr. Gray, "to be able to record a decided improvement in the condition of patients at the time of their admission. Only a few had been bled and reduced by a depressing course of treatment, and nearly all (the exceptions being a few among those transferred directly from the county-houses) gave evidence of careful and humane treatment."

Of the 235 patients received in the course of the year, 199 were admitted for the first time, 24 the second, 7 the third, and 5 the fourth. Twenty of those who were readmitted had formerly been discharged cured.

"In the list of discharges, eight males and two females are recorded as not insane. Five of these were drunkards; one was a case of eccentricity, with strong mischievous and vicious propensities; two were cases in which insanity had been successfully pleaded in defence against criminal charges; and two were imbeciles."

As parts of the scheme of moral treatment, we learn from the report that "a large number of entertainments, theatrical and social concerts, lectures, and addresses have been given during the year. The anniversary of the opening of the institution and the national anniversaries were celebrated in the usual manner. All of these have been under the entire management of the patients themselves, who, in the necessary preparation, have exhibited a great deal of ingenuity, taste, and talent. Several very fine pieces of scenery have been painted by an artist recently returned to his friends; and to the same gentleman we are indebted for a new drop-scene for the stage, and a large number of portraits and sketches for the decoration of the halls. The music for all our entertainments has, as usual, been furnished by the 'Asylum Band.'"

Patients admitted from January 16th, 1843, to December 1st, 1857	5065
Discharged cured	2112
Died	605
Not insane	34

In conformity with a legislative act, the insane convicts of the State were removed to this asylum during a period of eight years, terminating in 1854.

The number thus transferred was 67. Fourteen of them, according to the report, were feigning insanity. Of the remaining 53, the form of disease was: Acute mania, 1; chronic mania, 5; periodic mania, 1; paroxysmal mania, 1; melancholia, 1; dementia, 41; general paralysis, 2; imbecility, 1.

The case of melancholia, that of periodic mania, and three of the cases of dementia, recovered.

"It is a significant fact," remarks Dr. Gray, "that, for the period of eight years, but one case of acute mania was sent from our State prisons. These statistics show that the form of mental disease most likely to occur among this class is dementia. We have here forty-one cases of this form in fifty-three cases of insanity! Their individual history shows further, that in nearly all, the process of sinking into dementia was gradual, and not the sequence of neglected or violent mania, a fact confirmed by my personal visits to the prisons, and information given me by their officers. Few convicts become insane from the operation of moral causes."

Of the fourteen cases of simulated insanity, mania was feigned in three, and dementia in eleven.

Aside from these convicts, eighty-six persons have been sent to the asylum by order of judges and justices, as "criminal and dangerous lunatics." It was found that twelve of them feigned insanity, two others were not insane, and four were imbeciles. "Of the twelve feigning insanity, ten simulated dementia, and two mania."

Of the 68 who were really insane, the form of disease was, acute mania in 12; subacute mania, 3; chronic mania, 14; periodic mania, 3; paroxysmal mania, 4; puerperal mania, 1; dementia, 26; mania, with epilepsy, 2; dementia, with epilepsy, 2; general paralysis, 1. Twenty-one of these have been discharged recovered, and ten have died.

"Among the crimes recorded as committed are 22 murders and 14 arsons. Of the former, 10 were committed by persons labouring under dementia, 2 by demented epileptics, 2 had acute mania, 1 subacute, 4 chronic mania, 1 was an imbecile, and 2 feigned insanity as a means of escape. Nineteen were males, and three females.

"Of the 14 acts of incendiarism, 4 were by persons labouring under dementia, 2 by epileptics, 1 by an imbecile, 2 by cases of acute, 2 of chronic, and 1 of puerperal mania, and 2 by persons not insane. Eleven of these were males and three females."

In July, 1857, the buildings of the asylum suffered serious detriment from two conflagrations. Upon the 14th, the large central building of the front edifice was entirely destroyed (the outer walls alone being left standing), together with about ninety feet of the roof and a portion of the attic of the wing occupied by the female patients. No patient was either destroyed or injured; but Dr. Lauren F. Rose and Mr. William Cessford, a fireman, both resident in Utica, were killed. "Both fell in the heroic discharge of duty. The latter was completely buried in the ruins of the falling roof; and when his remains were found, the charred hands still clutched the vessels with which he was labouring to control the fire."

Upon the afternoon of the 18th, the barn, a stone building 100 feet long and 47 feet wide, was also destroyed, with the exception of the outer walls.

These disastrous fires were the work of an incendiary—a man who had formerly been a patient in the asylum, but who was discharged in February, 1856, and during most of the subsequent period had been an employee, "working the greater part of the time in the dining-room and in the printing office. He was also employed as a nurse." "The fire in the barn was kindled in the loft, and that in the asylum was kindled in the large foul-air flue leading from the north wings, where it passed through the main attic, over the ceiling of the chapel, to the cupola. There was a door entrance to the flue, through which he passed and set fire to a temporary wooden box within, which was intended to connect the ventilation of the chapel with that flue."

The managers of the asylum accord great credit to Dr. Gray and his assistant physicians, for their energy, prudence, and good management, under the trying circumstances of their position, during the conflagration of the 14th.

Measures were immediately taken for the reconstruction of the central edifice, and at the time the report was written, it was far advanced towards completion.

2. The general results for the year 1857, at the New York City Lunatic Asylum, are indicated by the subjoined numbers.

	Men.	Women.	Total.
Patients on the 1st of January . . .	252	345	597
Admitted in course of the year . . .	130	196	326
Whole number " . . .	382	541	923
Discharged, including deaths . . .	131	165	296
Remaining on the 31st of December . .	251	376	627
Of the patients discharged, there were cured			152
Died			75

The diseases in two of the cases cured was delirium tremens. Six cases discharged "unimproved" were "improper subjects."

Causes of death.—Consumption, 25; paralysie générale, 7; chronic diarrhœa, 6; typhomania, 6; submersion, 4; senectus, 4; epilepsy, 3; paralysis, 3; inflammation of the brain, 3; congestion of the brain, 2; inflammation of the lungs, 2; disease of the heart, 2; hemiplegia, 2; apoplexy, 1; hæmoptysis, 1; peritonitis, 1; albuminuria, 1; dropsy, 1; dysentery, 1.

A large part of Dr. Ranney's report is occupied by a description of the disciplinary and moral regimen pursued in the asylum. His general scheme is nearly identical with that which prevails at all other well-regulated institutions of the kind; and as this must be pretty well understood by our readers, it is unnecessary, in this place, to enter at large upon the subject. We quote some of the remarks upon seclusion and mechanical restraint.

"Our rule is, never to punish a patient. If one be violent or noisy, he is shut in a room, with a distinct understanding that others shall not be annoyed; and soon, if promises be given of better conduct, he is again allowed the liberty of the hall; which course is repeated as occasion may require. During the past year, with an average of 618 patients, not more than four daily have been confined in their rooms.

"Our apparatus for restraint consists of the camisole, muff, common restraining (belt and wrist?) strap, and bed strap. Of these, the first two are most frequently used, principally to prevent females from removing their clothing; the restraining strap most rarely, that the patient may be unable to injure himself or others; while to obtain the quietude necessary for sleep, the bed strap forms the only mode of restraint. This embraces all and every means of restraint; and the daily average of any application of this kind does not exceed one, among two hundred inmates."

When reviewing the last report from the Eastern Kentucky Lunatic Asylum, we made some remarks upon the ability of the insane to control their erratic and wayward tendencies and impulses, under the stimulus of a sufficient motive or other inducement. The following extract both confirms and illustrates the truth of the position which was there assumed:—

"There are certain inducements held out to the insane, to which it may be proper to refer; the number being small who are unable in some degree to exercise self-control over their ordinary acts. A patient is told that if his conduct be good, he will have associates of a like character, and certain privileges not otherwise allowed, besides giving great weight in his favour in the final decision of his condition of mind. The following illustrates this principle:—

"Some months since, a young man was admitted who for weeks had disturbed by night his neighbourhood with loud prayers. He frankly confessed the truth, and stated that the same course would be pursued, as he had committed a sin of great enormity. Secret prayer was suggested, but the proposition was declined. He was then informed that there were two classes of inmates—the one, quiet, the other, noisy; and should he persist in his resolution, he would be placed among the last named, that the sick and quiet might be undisturbed. On deliberate reflection, he concluded to make the trial, and for one night to remain with the quiet. The following formal compact was finally adopted:—

"1st. That he should not disturb the house for one night, and that one day's notice of a change of intention should be given the physician.

"2d. That the physician accord to him the privilege of remaining in the best part of the house, until the notice be received, and also permission to make daily a short exhortation.

"The result was, that no notice was ever given on his part; he became quiet at night; the daily exhortation continued a few weeks, then was wholly omitted; and he is now perfectly well."

The report contains the programme of the last Christmas entertainment for the patients. It consists of three parts. Part First includes an overture by the band and five songs, between the second and third of which, "*Santa Claus makes his entreé with presents.*" Part Second consists of a pantomime in seven scenes; and Part Third, of an overture, five songs, dancing, and a fairy dance as the "Grand Finale." Beside Christmas, four other days are annually observed as holidays, upon which entertainments are given.

Of the 258 patients admitted in the course of the year, 157 were natives of Ireland, 55 of Germany, 14 of England, 11 of Scotland, and 21 of twelve other foreign countries and their dependencies. Only 68 were natives of the United States; and of these, but 40 were born in the State of New York.

The establishment has been vastly improved within the past year, by the construction of a separate building for kitchen, laundry, the heating of all the water for the halls, and the generation of steam, which has been substituted for furnaces, grates, and stoves, in warming the apartments of the asylum.

3. The summing up of the records for 1857, at the New Jersey State Lunatic Asylum, furnishes the following results:—

	Men.	Women.	Total.
Patients on the 31st of December, 1856 .	124	139	263
Admitted in course of the year . . .	75	91	166
Whole number " " . . .	199	230	429
Discharged, including deaths . . .	64	86	150
Remaining December 31st, 1857 . . .	135	144	279
Of patients discharged, there were cured .	26	30	56
Died	11	13	24

Causes of death.—General exhaustion of the system from chronic disease, 13; exhaustion from acute mania, 3; congestion of the lungs, 2; suffocation by food lodged in the trachea of a paralytic, 1; consumption, 1; softening of the brain, 1.

The larger part of Dr. Buttolph's report consists of "Remarks on the Nature, Causes, Means of Preventing, and General Principles of Treating Insanity." We shall select from this such portions as appear to us most worthy of the attention of our readers.

"A degree of confusion often arises in regard to the true nature of insanity from the language of statutory or legal definitions, which have been made and interpreted to embrace only or mainly those cases of mental disorder in which the intellectual faculties are specially at fault. In this way, the whole class of cases of mental disorders in which disturbed and deranged feeling is the leading symptom, and popularly, though inaccurately, called 'moral insanity,' is brought into disrepute, or wholly ignored by courts and jurists.

"In estimating the responsibility of an individual whose character and conduct have been changed by disease of the brain, no difference is made by practical observers and writers on account of the locality of the disease in that organ, or of the class of faculties, whether intellectual or affective, that are most involved. While the daily and hourly experience of medical men connected with the care of the insane shows that the moral freedom, and therefore the responsibility of individuals, is as effectually and entirely abridged or suspended in these cases as if the intellect was deluded or most disturbed, no amount of authority from musty codes, of special pleading, or sarcastic ridicule from any quarter, can change the simple facts, and legislators, courts, and

communities should become accustomed to admit their existence, and thus lessen the danger of judicial murders, or the infliction of penalties upon insane and irresponsible victims.

"Of the mental and moral causes that predispose to mental disorder, none exert a greater influence for evil than the imperfect development and training of the different classes and individual faculties. These are constituted to be mutually dependent upon each other in working out the great problem of life. If the intellectual, the moral, or the animal group of faculties, or any individual belonging to either, is neglected in the educational training, or is cultivated too highly, or at the expense of the rest, the equilibrium of the mind is destroyed, and the individual thus rendered liable to be affected unduly by the exciting, depressing, or otherwise disturbing influences of life. Many, indeed most of the systems, or rather plans of educational training in vogue are defective in this respect, that they do not embrace a correct and comprehensive view of the constitution and wants of the mind. In the first place, educators too often practically ignore the fact that mind, in this life, is directly dependent for its vigorous and healthy action upon the perfect development and healthy state of the brain, as its proper and only physical medium of manifestation. The consequence is, that efforts at mental culture are frequently made without reference to the plainest laws of health, and hence frequently result in the failure of the health, happiness, and usefulness of the victim.

"Again, attempts are made to educate the mental faculties without sufficient reference to the wants of the animal feelings and higher sentiments of the mind; in many cases also, where one or other of these classes are relatively very strong or weak, and require the most careful and enlightened attention on the part of the educator to secure a harmonious balance in the different mental forces.

"In harmony with the views here presented, we regard attention to all those means calculated to aid the full development of the brain, and establish the proper activity and strength of the faculties, as the most efficient and reliable means for preventing insanity.

"We would have the system of education adopted include such general instructions in regard to man's physical system as to enable him to conform in practice to the laws of his being. * * * * The next step is to acquire a knowledge of the nature, number, and office, separate and combined, of the faculties of the mind; this being alike indispensable to self-government and to a correct and consistent view of man's true relation to all external objects and beings. When this knowledge is attained, he is prepared to receive such impressions in regard to the relations, legitimate aims, and ends of life, as will enable him to meet and bear the trials incident thereto with Christian fortitude and patience. Instead of repining and withering under what appears to the ignorant and undisciplined as mysterious dispensations of Providence, he sees only the movements of a comprehensive system of changes and events designed by a master-mind too wise to err and too good to be unkind.

"The tranquillity of a mind thus enlightened and submissive, in regard to the current events of life, can scarcely be disturbed by petty annoyance or overcome by serious calamity; as, by aid of its ruling principle, or 'philosopher's stone,' the unmanly and unchristian term 'trouble' is changed to *business*, and the external world about him, often regarded and called a gloomy 'vale of tears,' from which he is to pray for a safe, if not early exit, becomes what the Creator intended it should be—a bright and beautiful sphere where all his powers, inspired by hope, shall be developed and tried, and thus prepared for entering upon a future state of unlimited growth and of unmixed felicity."

4. The Forty-first Annual Report of the Friends' Asylum, at Philadelphia, Pa., contains the following record of the movements of the patients at that institution during the fiscal year terminating with the close of February, 1858.

	Men.	Women.	Total.
Patients in the asylum March 1st, 1857 . .	29	29	58
Admitted in the course of the year . . .	18	23	41
Whole number " " . . .	47	52	99
Discharged, including deaths	18	19	37
Remaining Feb. 28th, 1858	29	33	62
Of those discharged, there were cured . .	9	10	19
Died	5	2	7

Died from the exhaustion of acute mania, 4; effusion at the base of the brain, 1; chronic meningitis, 1; phthisis pulmonalis, 1.

"One had been in the asylum three days; one eight days; two about one month; one about four months; one two years; and one thirty-one years on his last admission."

Dr. Worthington thus expresses his views of the effect of insanity upon the general health and longevity of persons attacked by it.

"There can be no doubt that insanity, in many cases, is complicated with physical disorders which tend to shorten life. In a considerable number of cases, even where it is not complicated with any appreciable structural disease, the patients sink, in periods varying from ten to thirty days, from exhaustion produced by intense excitement and the almost absolute want of sleep. In cases of this kind, the individual has generally experienced some severe shock to his nervous system or been suffering under some prolonged weight of mental distress, which appears completely to have broken down his recuperative energies. But after the acute stage has passed without reason being restored, and patients have settled into a state of chronic insanity, the physical health generally becomes re-established; and then, if placed under circumstances favourable to its continuance, the insane have, perhaps, as fair a prospect of long life as persons in the possession of all their faculties. In an institution where all their wants and comforts are properly attended to, without care or thought on their part, they may indeed be considered as less subject to the various causes of acute disease than the world at large, and probably enjoy quite as good physical health.

"These remarks are fully exemplified by the comparative condition of the two classes of patients in the asylum, almost the whole of the severe cases of illness that occur being furnished by patients recently admitted; while the more permanent residents of the asylum seldom require the use of medicine. Among this class of patients, during the past year, the usual general good health has prevailed, only one death having occurred—a man more than eighty years of age, who had spent nearly half his life in the institution."

It appears to us that these views are very accurate as derived from observation of the disease at the institution whence this report emanates. A writer whose experience had been gained in some of the other American hospitals, could hardly have failed to add to the above that the chronic insane yield more easily than the average of persons enjoying mental health to the influence of the more violent of epidemic diseases. Attacks are relatively more numerous, and the mortality is greater. Those patients are deficient in the self-preservative power, the nervous energy, the *vis vitæ* which effectually prevents an attack by the epidemic agent, or obtains the victory over it if an attack has been made.

The institution under the care of Dr. Worthington presents perhaps the maximum of conditions promotive of general health and longevity. It does not receive paupers. Its patients have never suffered, previously to admission, from a deficiency of wholesome food. In very few of them has the constitution been shattered or weakened by intemperance. The hygienic condition of the asylum has always been good. The number of cubic feet inclosed by its walls is large in proportion to the number of patients. Its inmates have probably never had the opportunity of attacks from diseases resulting from deficiency in the quantity of food, or inferiority in its quality, or from prolonged humidity or impurity of air. Scorbutus, we apprehend, was never seen within its walls, and erysipelas, as well as fevers of the typhoid type, very rarely. If

we are not mistaken, no severe epidemic has ever visited it, to try the resistant vitality of its chronic patients, and to decimate their number. For these, and for still other reasons, among the deaths in chronic cases at this institution there has been, for many years, and doubtless there will still continue to be, a comparatively large number in which the patients have attained a very advanced age.

	Men.	Women.	Total.
Patients admitted since the asylum was opened	699	663	1362
Discharged, cured	324	291	623
Died	97	91	188
From 20 to 30 years of age when admitted	218	187	405
" 30 " 40 " "	107	135	242
Of 572 patients received since 1842, there were between 20 and 30 years of age when first attacked	107	89	196
Between 30 and 40 years of age . .	54	55	109

The subjoined extract is from the remarks upon the treatment of the insane.

"Uniform *kindness* and *candour* in all our intercourse with them cannot too frequently be urged upon all concerned in their management, either within or without the walls of an asylum. One reason, perhaps, why deception is so often sought to be practised upon them is that they are supposed to be incapable of distinguishing between truth and fiction, and individuals are thus led, sometimes with good intentions, to practise what they suppose to be harmless deception, which they imagine the subject of it will never discover. While the insane are peculiarly sensitive to any want of respect towards themselves, and are frequently remarkably acute in penetrating the motives of others, they are easily won by real kindness and sincerity, which they quickly perceive can have no object but their own benefit. It is only by this kind of treatment that their confidence and respect can be secured, while deception is almost sure to be discovered, and visited by resentment and dislike."

Dr. Worthington, having recently had an opportunity of observing the management of the insane in some of the European countries, makes the following remarks upon the subject of corporeal restraint:—

"In most of the institutions visited in England, including several of the larger asylums, the mildest system of restraint seemed to be employed—carried to the extent of the entire disuse of all forms of instrumental restraint. This may, indeed, be said to be general in all the county asylums in England; and whatever we may think of the advantage of the 'non-restraint system,' its possibility is no longer doubtful. It was certainly interesting to witness, at Hanwell, with its 1200 patients, the practical working of the system; and while we may applaud the spirit of improvement and genuine philanthropy that led to its introduction there, and may be willing to admit that the nearer we approach to it in the general management of the insane the more is their condition elevated and improved, we may yet well doubt the wisdom of absolutely rejecting, under all circumstances, a remedy that might, by any possibility, be found useful." P. E.

ART. XX.—*A Treatise on the Practice of Medicine.* By GEORGE B. WOOD, M. D., Professor of the Theory and Practice of Medicine in the University of Pennsylvania, etc. etc. 2 vols. 8vo. Fifth edition. Pp. 888–904. J. B. Lippincott & Co.: Philadelphia, 1858.

THE demand for five editions of the work of Dr. Wood, within the comparatively short space of eleven years, is sufficient evidence of the correct appreciation by American physicians of the professional productions of their own countrymen, when of a character similar to that of the treatise before us.

Comprehensive, clear, and exact in all its teachings, and presenting in its successive editions a fair and full exposition of our knowledge in reference to the pathology and therapeutics of the various diseases of which it treats—comprising all such as are liable to fall under the notice of the practitioners located in different portions of the United States—we know of no systematic treatise on the practice of medicine, in the widest signification of the term as now understood, which is better adapted as a work of reference to the physician actively engaged in the engrossing duties of his profession, or through the pages of which, the advanced student will be presented with better delineated and more truthful pictures of diseases, or sounder and more explicit practical directions for their management. D. F. C.

ART. XXI.—*Guy's Hospital Reports.* Edited by SAMUEL WILKS, M. D., and ALFRED POLAND. Third Series, Vol. III. London, 1857. 8vo. pp. 513.

THE first volume of *Guy's Hospital Reports* was edited by George H. Barlow and James P. Babington, in 1836. Impressed with the importance of recorded experience in the advancement of medical knowledge, they determined to contribute to the general stock a collection of facts drawn from the largest repository of disease in London. They supposed, also, that it was incumbent upon them, and upon all who have enlarged opportunities of witnessing disease and its treatment, to collect and record their observations, that they may be preserved from oblivion and transferred to the common stock of knowledge. A volume of great value has appeared almost every year since the publication was commenced.

Guy's Hospital is the largest in London; it contains within its wards a constant succession of above five hundred patients; thus amounting in the year to between three and four thousand. These patients are not admitted at the recommendation of managers, but they are selected by the attending physicians and surgeons as those whose diseases are the worst and most acute, or the most interesting and instructive, amongst a concourse of patients who present themselves upon the regular days of admission. The out-patients prescribed for are no less than fifty thousand. The annual number of accidents admitted amounts to nearly six hundred. Records of all the cases admitted are kept by the senior students, who form a Clinical Society, of which some notice was given in the July number of this journal for 1844. With such material to be disposed of, with editors of ability and industry, *Guy's Hospital Reports* must be looked upon as among the most valuable contributions to our general stock of experience.

This volume contains twenty original communications, eleven wood-cuts, and nine lithographic plates. The following is an analysis of its contents:—

I. *A Report of Seventy-two Cases of Tetanus occurring in Guy's Hospital since the year* 1825. By ALFRED POLAND.

In the introduction to the first volume of the second series of *Guy's Hospital Reports*, the editors state that they purpose, in the new series, to illustrate the different classes of disease by the aid of series of *reports* collected within the walls of the hospital, and furnished by the books of the Clinical Society. Previously to that time their chief energies had been expended in giving to the medical world, in finished treatises, the inferences they deduced themselves from the observations collected. The very first report they published, which was upon the cases of hernia, was by the author of the one we are about to examine.

This paper of Mr. Poland's occupies eighty-eight pages. He commences by stating concisely *all* the cases which have occurred, which it is important to bear in mind, as recorded cases, generally, are those only having a successful issue. They are arranged as they occurred in the several years, giving the

sex, age, constitution, habits, previous ailments or injuries; the supposed cause and period of accession thereafter; the date and state of the weather at the time of the seizure; the state of the winds on the day and two preceding days of the attack; the temperature at and before the date; the state of the wound at the time; any peculiarity in the symptoms; the treatment; the duration; the results; and mode of dying; and, lastly, the post-mortem appearances. They are then analyzed and reviewed in the following order:—

1. The frequency of the disease. { 1. In reference to hospital admissions. 2. In reference to hospital deaths.
2. The sex.
3. The age.
4. The constitution, diathesis, regimen, and habits. } Condition of body. } Predisposing causes.
5. Season of the year, climate, &c.; condition of atmosphere. }
6. Form of the disease. { 1. *Idiopathic.* Exposure. } Exciting cause.
   2. *Traumatic.* { 1. Acute. 2. Subacute. 3. Chronic. }
7. Interval between probable cause and first appearance of symptoms.
8. The state of the wound at time of occurrence of symptoms.
9. The peculiarity of the symptoms. { 1. Premonitory. 2. Specific. 3. Decline.
10. Duration of the disease; ratio of recovery and mortality; the mode of dying; and prognosis.
11. The morbid appearances.
12. The treatment adopted. { 1. Local. 2. Constitutional.

In addition, the important points of his own cases are compared by Mr. Poland with those of the cases recorded by Dr. Lawrie, from the Glasgow Infirmary, and those of Mr. Peat and Dr. Morehead, from the Sir Jamsetjee Jejeeboy Hospital, at Bombay.

Section I. *The Frequency of the Disease.*—In 32 full years there occurred 72 cases of tetanus, in Guy's Hospital, in 113,020 total admissions, making an average of .0063 per cent.; and there were 62 deaths from tetanus in 11,052 total deaths, or .056 per cent. Of these, all but three had a coexisting or previous lesion of surface, they were called traumatic, and hence might be ranked and included under the surgical class of cases. Thus there will be 69 cases of tetanus with lesion of surface to 64,368 cases admitted with external lesion and surgical disease, being .0107 per cent.; and 61 deaths from tetanus to 4,218 cases of death from external lesion and surgical disease, being 1.444 per cent. In the Bombay Hospital, from 1848 to 1853, 0.8 per cent. of the total admissions were of tetanus, and 3.9 per cent. of the total deaths. Dr. Leith, Registrar of Deaths at Bombay, returns 1,716 deaths from tetanus during the same six years, and states the percentage to be 2.5 on total deaths from all causes. In London, in six years, in 345, 132 total deaths, 110 of tetanus, or .0031 per cent. In England, in the same space of time, the total deaths are 2,431,602, and 759 are of tetanus, being .0031 per cent.

In these calculations we have given the percentage as we find it in the report. Some of them will be observed to be incorrect, being just ten times too low; .0063, .056, and .0107, should be respectively .063, .56, and .107; .0031, in both instances, should be .031. In fact, the only correct calculation made is that giving 1,444 as the percentage, when, out of 4,218 cases of death, 61 are from tetanus. Such errors are very annoying, and should be carefully avoided, as they can be readily passed over unperceived. All these percentages are cited as if correct in the review given of this report in the last number of the *British and Foreign Medico-Chirurgical Review* (April, 1858); and as the numbers from which they are calculated are not given, the reader is, therefore, not furnished the data for detecting the error.

For the purpose of comparison, we have calculated from the few tables we have at hand the number of cases of tetanus that have occurred in several places

in the United States. In 1854, in New York City, the number was 49, of which 35 were males and 14 females. The total deaths during the same year being 28,568, we have 1 death from tetanus in 583, or .17 per cent. In 1857, in Philadelphia, there were 13 deaths in a total of 10,895, or one case in 838, which gives .12 per cent. From the tables of Dr. Emerson, published in this journal in the years 1827, 1831, and 1848, we have that from the 1st January, 1807, to the 1st January, 1827, in a total of 53,004 deaths in Philadelphia, 125 were from tetanus, giving .236 per cent.; from 1st January, 1827, to the 1st January, 1830, there were 29 cases in 16,579 deaths, giving .175 per cent.; from 1830 to 1840 there were 51 cases in 49,686, giving .103 per cent. From these data the disease would appear to be becoming less common in this city. In Massachusetts, as we learn from the last report made to the commonwealth, in five years the total number of deaths from all causes was 104,873; of these, 55 were from tetanus, or 1 in 1,907, which gives .05 per cent. These data are sufficient to show that tetanus is much more common in this country, even in the more northern portions, than in England. In Charleston, S. C., in 1856, in 1,428 total deaths, 57 were from trismus nascentium, and 6 from tetanus, giving for tetanus alone a percentage of .42, and for both diseases 4.42.

Section II. *The Occurrence of Tetanus in the Two Sexes.*—Of the 72 cases in Guy's Hospital, 12 were females and 60 were males; the ratio, therefore, between the two sexes is 1 : 5. In Glasgow there were 10 females to 42 males, a ratio of 1 to 4¼. From the report of the registrar-general of England, it appears that in London, from 1843 to 1854, the proportion of males to females dying of tetanus was 156 to 72, being 2⅙ : 1. In England, from 1847 to 1854, 734 to 370, being nearly 2 : 1. If those cases where death occurred under five years of age be excluded, we have, in London, from 1843 to 1854, 124 males to 45 females, being about 2¾ : 1.

Section III. *Tables of the Ages in which Tetanus occurred.*—In Guy's Hospital, about 40.27 per cent. were between 10 and 30 years of age; in Glasgow, about 55.1 per cent., and in London, from 1843 to 1854, omitting those under 5 years, 36.09 per cent.

Section IV. *Constitution, Diathesis, Condition of Body, Habits, and Previous Health.*—The constitution and diathesis are recorded in only fifteen cases; but, according to them, the very quiet and cheerful, the very irritable and excitable, the strumous and fair, and the very strong, are equally liable to the disease, and it is in all equally fatal.

The condition of body is noticed in 46 cases. Separating these into classes, the healthy, muscular, and fine-made, and the robust and well-developed give 5 recoveries and 30 deaths; whereas, of the unhealthy, spare, and emaciated, none recovered, all of them, 11 in number, died. The habits are mentioned in 16 cases; the dissipated and intemperate have an equal ratio with the temperate, 2 recoveries to 5 deaths. Judging from the statistics from Bombay, it appears that Europeans, whether in their own country or in India, are peculiarly exempt from the disease, whilst natives of warm climates are greatly susceptible.

In our Southern States tetanus seems to be much more frequent among the blacks than the whites; in Charleston, for example, from April, 1857, to April, 1858, there were 8 deaths from trismus and 2 from tetanus among the whites, and 37 from trismus and 8 from tetanus among the blacks, while in the total deaths there are but about one-third more of the latter than of the former.

Previous diseases, injuries, complications, &c., have been noticed in only 12 out of the 72 cases. In two of these twelve cases, the patients were subject to epilepsy; in two of them, children nine and ten years of age respectively, there were intestinal worms, in one lumbricoides, in the other ascarides; in three of them, the patients were subject to rheumatism. Tetanus is very often ushered in by symptoms of rheumatism, and the question as to how far the two are allied has not yet been sufficiently discussed.

Section V. *Season of the Year, and Climate, &c.*—An analysis of the cases is given according to the months in which they occurred; the temperature is added, the state of the weather, and the direction of the wind the day of the attack, and for the two or three days that preceded. Those cases which occur-

red previous to admission are separated from those in which the disease took place afterwards, when it is to be presumed that they would be little liable to wet, exposure, and sudden change of temperature.

Of the 72 cases, 41 were admitted with the disease, and in 31 it supervened after admission. Of the 41 cases admitted with tetanus, 14, or 34.14 per cent. can be distinctly traced and associated with exposure and sudden change of temperature; as to the other 27 cases, there is no evidence recorded one way or the other. Of the 31 in which it supervened after admission, in 3 there was direct evidence of exposure to draught and cold previous to the attack. The table shows that there was a greater amount of tetanus during the westerly winds; which, it must be recollected, however, prevail in England. Larrey states that tetanus is most frequently met with during N. N. W. winds. As to the season of the year, the list from Guy's Hospital and Dr. Morehead's Bombay returns give the highest ratio in the summer months; the Glasgow in the temperate months, and the published cases and Mr. Peat's Bombay returns in the cold months. This discrepancy, at least, will not lead us to place too much confidence in special returns. In regard to the influence of the season on the recovery from tetanus, an equal discrepancy exists.

Mr. Poland gives, in addition, some interesting records on the occurrence of tetanus after naval and military engagements, drawn chiefly from the accounts of Baron Larrey, which contain facts bearing strongly in favor of atmospheric influence as the real point of causation.

Section VI. *Form of the Disease, including the supposed Exciting Cause.*—In Guy's Hospital, 3 of the cases were idiopathic, being 4.16 per cent.; in Glasgow the percentage was 3.84, and at Bombay 38.46. The severity of the symptoms bore no relation to the degree of local injury. In 86.56 per cent. tetanus occurred after wounds of the extremities. As to the relative frequency of tetanus in injuries and surgical diseases, the returns are too incomplete to give any satisfactory deduction.

Section VII. *Interval between Injury and Symptoms:*—

	Previous to the 10th day.	From 10th to 22d, inclusive.	Above 22 days.
Guy's	31 cases in 63 or 49.2 per cent.	26 cases in 63 or 41.26 per cent.	6 cases or 9.52 per cent.
Glasgow	30 " 48 " 62.5 " "	18 " 48 " 37.5 " "	no cases.
Bombay	18 " 28 " 64.29 " "	8 " 28 " 28.57 " "	3 cases or 10.71 " "
Published cases	69 " 166 " 41.56 " "	82 " 166 " 49.39 " "	15 " 9.03 " "

Other tables are given, which show that the interval preceding the attack does not determine the form of the disease, that is, that the disease is sometimes of the severest and most rapid description where an interval of ten days has elapsed. On the other hand, when the disease follows close upon the injury, it is for the most part uncontrollably rapid and fatal.

Section VIII. *State of the Wound at the time when Tetanus sets in.*—In 1 case it was quite recent; in 16, inflamed or suppurating; in 19, unhealthy, sloughing, and gangrenous; in 14, scabbed over, healing, nearly healed, and healthy; and in 7 healed, or said to be healed. Of the 7 cases, however, in which it is said to be healed, Mr. Poland adds afterwards, that there was only one case wherein it was observed that the wound was actually healed at the time of the occurrence of the tetanus.

Section IX. *Peculiarity of the Symptoms.*—Notice is made of premonitory symptoms in only 4 cases; in two there were darting pains from the wound up the arm, before the attack; in the others, great pain in the wound, and in one of them great pain in the back also. In 4 cases there was a remission of the symptoms; in one for 2 days only, in another for many days, and in two for 13 days. As respects the mode of dying, 19 died during a paroxysm with spasm and convulsions; 13 from asphyxia and suffocation, and 10 from exhaustion.

In one case, the heart's action continued for some time after the patient had ceased to breathe.

Section X. *Duration of the Disease in the Fatal Cases.*—Of the 62 cases which terminated fatally, 32, or 51.62 per cent., died before the end of the 5th day. There is a statement generally quoted in medical works, to be found, if we are not mistaken, in the writings of Hippocrates, that if tetanus continue over a period of twenty-two days, recovery is certain. Two of the cases at Guy's were fatal over this period, one on the 28th, the other on the 32d day. It is curious to notice also that ten died on the 7th and eleven on the 4th day, while on no other day did more than five die, and then it was on the 3d and the 6th, or the days immediately preceding them. A table is given which shows that there are no grounds for the supposition that the season of the year has any influence on the short duration or protraction of the disease.

Section XI. *Post-mortem Appearances.*—Of the 62 deaths, 18 were not examined, and of the remaining 44, in only 34 were the inspections recorded. The brain was examined in 20 cases; in 11 it was healthy, healthy and firm, with nothing remarkable, with nothing morbid in colour or consistence; in 9, it was congested, darker than natural, dark and flabby, pinkish with ulcerations on under surface of the anterior lobes, and decomposed. The spinal cord was examined in 19 cases; in a few, it was redder than natural, congested, and softened, but in the greater number there was nothing abnormal. The condition of the nerves at the seat of the wound was marked in 14 cases; in five they were inflamed. The heart was violently contracted in only one case; and in this, the patient died on the second day from suffocation, after laryngotomy had been performed for his relief. In 28 cases in which the condition of the lungs is given, in 7 they were congested, in 3 pneumonic, and in 4 apoplectic. The larynx, in one case, in which the patient died in a paroxysm, was found closed by the epiglottidean folds being caught in the rima. In the condition of the other organs of the body, there does not appear to be anything of importance to be noticed.

Section XII. *The Treatment adopted.*—No benefit was experienced from the local measures, which consisted in laying freely open the wound, in amputation, in division of the nerves near the seat of the wound, in baths, and in applications of every description to the wound, the spine, the neck, spine and abdomen, and to the region of the diaphragm. The extraction of a tooth, in order to administer food, in one case, was followed by immediate death. In the constitutional treatment of the cases, those medicines which support the system, and which would render the patient more able to fight against the exhausting disease, seem to have been most efficacious. At all events, in the 10 cases of recovery quinine was given in 7, and in the others wine, musk, and tonics. Of the 25 cases in which quinine was given, 7 recovered; the doses were about one grain per hour, given every third or fourth hour. Cannabis indica and chloroform, remedies which are in vogue in the treatment of tetanus in this country, were of no service; in most of the cases in which chloroform was given, the disease was aggravated.

II. *On Purpura and its Connection with Splenic Disease.* By S. O. Habershon, M. D.

After some short prefatory remarks upon the varieties of purpura, the symptoms of the disease, the pathological conditions found in the fatal cases as they are generally given by authors, its causes and its treatment, Dr. Habershon gives a history of fourteen cases which occurred under his own observation. Five of these were cases of purpura hemorrhagia, and three of these proved fatal.

At the *post-mortem* examination made in the three fatal cases, the spleen was found to be diseased, and "it was the only structure presenting evidence of disease which could not be looked upon as the effect rather than the cause." The enlarged gland was of a dull red colour, and studded throughout with pale yellow spots, from one to three lines in diameter; they were connected with the capillary circulation, and consisted of cells, nuclei, and granules. The appearance of the organ is thus described in the first case, where the affection was most marked.

"The spleen was pale, soft, of a dull red colour, and contained very numerous light-coloured masses, about the size of peas, throughout the whole of its substance. These pea-shaped masses, on microscopic examination, were found to be connected with the splenic capillaries, a larger capillary vessel being observed to be connected with one side of the mass, and on the other were several smaller vessels, but it could not be ascertained whether these ramified over or passed through the structure. The rounded mass consisted of granules and cells; several of them were irregularly aggregated together so as to constitute the pea-shaped mass before mentioned; splenic cells were observed of various sizes generally about the size of white corpuscles of the blood, some contained a distinct nucleus, others granular matter."

It would seem to be the fashion at the present day to locate the cause of any unknown disease in one or the other of the ductless glands. As nothing is known about their uses in the economy, there is nothing to check the fancy, in regard to the effects of changes they may be found to undergo. Dr. Habershon considers the case just mentioned to confirm the idea that "the function of the spleen is in close connection with the metamorphic condition of the blood," and also that "acute changes in the Malpighian bodies *is* one of the causes of purpura hemorrhagica." To prove either of these propositions would require some reasoning in a circle.

Nevertheless it does seem most probable that the primary cause of purpura is not the condition of the blood itself. In this disease, relapses not unfrequently occur after all external signs of the affection have disappeared, and, as Barthez and Rilliet remark, the long duration of the disease in many cases presupposes that the total mass of the blood has been several times removed. (*Mal. des Enfans*, tom. ii. p. 328.) If, therefore, the blood continues to be extravasated, it is logical to place the seat of the disease, not in the blood itself, but either in the capillary vessels that preside over its transudation, or in the agents that preside over its formation. The spleen may be one of these agents, and therefore it may be concerned in producing what may be the cause of purpura.

Some things were said in the interest of medical literature, in the *British and Foreign Medico-Chirurgical Review* for April, 1858, in a review of Dr. Habershon's work on "Diseases of the Alimentary Canal," which he would do well to hearken to. "We do not expect a medical writer to wield the pen of a Macaulay in detailing the history of disease, but we do require accuracy of expression, and some adherence to grammatical rules."

III. *Anatomical Description of a Double Fœtus.* By S. O. Habershon, M. D.

The monster consisted of two female fœtuses, of about seven and a half months, of the character described by St. Hilaire as synotus. The description given of the external appearance of the monster is very minute, as is also that of the internal arrangement of the organs, which were carefully dissected. Two plates, containing five figures, are added to assist this description. The only fault to be found with the paper is the name *synotus*, for the monster had four separate and distinct ears. There was a single head; the face on one side was perfect, but on the other there was a single eye, a small flattened nose, rudimentary lips, and external ears situated low down. It would be more correct, therefore, following the classification of St. Hilaire, to place the monster between the janiceps and the iniops, which, with the synotes, form the three groups of the family sycephalus. There are fewer examples of the group to which this monster belongs than of the others.

IV. *Select Surgical Cases.* By J. Cooper Forster.

Three of these cases are of tracheotomy for the removal of foreign bodies from the air-passages. In performing this operation, Mr. Forster recommends not waiting for the cessation of the hemorrhage before opening the trachea. In this, he differs from Dr. Gross, who has written most extensively upon this subject, and M. Trousseau, who has had the largest personal experience. Nothing is said in this paper of the dangers of the operation, which are very variously estimated by writers on the subject. For example, while Dr. Gross says "that there is hardly an operation in all surgery he would not rather

undertake," we have heard M. Trousseau declare that it is "a physician's operation rather than a surgeon's—one of those little operations which every medical man should perform." Within one week from the time we heard Trousseau make this declaration we saw him, in a case of croup, assist his interne to pass the canula directly through the trachea into the œsophagus, the bistoury having previously freely removed every impediment to such a proceeding.

One of Mr. Forster's patients, a pale, delicate little child, ten months of age, died four hours after being removed from the table, and he adds that "there cannot be a doubt that the loss of blood necessarily attendant upon an operation of this description in so young a child, was a direct and immediate cause of its dissolution."

Under the head of "Injuries to Veins," three cases are given of fatal hemorrhage from wounds of the following veins: the internal jugular, the popliteal, and the cephalic. The application of ligatures to bleeding veins is urged, as at all times to be preferred to allowing any patient to lose even a small quantity of blood.

Five cases of extravasation of urine in children are added. In all cases of the kind occurring in children, independently of accident, Mr. Forster believes that the extravasation arises from a stone becoming impacted in the urethra, giving rise to ulceration of the membrane. The practical directions he gathers from these cases are as follows:—

"1. Attend to the earliest symptom, viz., retention of urine in children.
2. Incise the parts freely into which the urine has extravasated.
3. Search for and remove the calculus immediately.
4. Do not pass the catheter."

V. *Remarks upon some of the Specimens of Diseases of the Bone contained in Guy's Museum, especially those styled Osteo-sarcoma and Myeloid, with reference to the Question of Malignancy.* By Samuel Wilks, M. D.

From some general remarks at the beginning of his communication, we find that Dr. Wilks does not believe that "cancerous" and "malignant" are convertible terms. He believes that cancerous tumours, that is, tumours containing the anatomical elements called cancerous, are not all malignant—in which we would say *en passant* that we do not agree with him—and again, and here we do most fully agree with him, that some tumours are malignant, which do not contain any of these elements.

Some pathologists, as, for example, Lebert and Bennett, would give up the word *malignant* altogether. The former exclaims that in using such a term we are no better than the common people, who divide diseases into those that are fatal, and those that are not, or than shepherds, who classify plants as eatable and as venomous. If the question as to the malignancy of a growth is very unscientific, it is nevertheless, as Dr. Wilks says, the most important which can be asked concerning it. The truth is that we cannot get along, even if it should be thought desirable to do so, without such words as "malignant" and "benignant," or some equivalent ones. These are certainly decidedly preferable, and more correct than any substitutes that have been proposed, not excepting the "general" and "local" of Lebert.

The most profound anatomical research has not yet told us the cause of the malignancy of certain growths. Aided by the microscope, a certain pathological school thought that nothing would remain unknown. By this instrument, it was said, the anatomical elements existing in a tissue can be determined, and it is these that give it its properties. But tissues having, for characteristic anatomical elements, cancer cells, epithelial cells, fibro-plastic elements, cartilage corpuscles, and the so-called corpuscles of bone, have all been found to be malignant. The chief heterology, in malignant growths, according to the most skilful and candid observers, is now conceded to be the disorderly crowding of their elements. The distinction between innocent and malignant tumours is, as Paget says, probably one, not of mere visible structure, but of origin and vital properties, and upon these subjects it is more pleasant than useful to speculate. What we here want, what we really need, are facts, and hence the paper of Dr.

Wilks is one of real value, containing, as it does, important facts in connection with some of the cases of the carcinomatous, osteo-sarcomatous, and myeloid tumours contained in the magnificent museum of Guy's Hospital. In the carcinomatous, the whole bone is invaded by the disease, and destroyed. In the early stage of the disease, the cancerous material is seen to be deposited, for the most part, in the medulla of the shaft of the long bone, though sometimes the disease approaches in its mode of growth the osteo-sarcomatous, and springs decidedly from the periosteum. In the so-called osteo-sarcoma the growth appears wholly to proceed from the periosteum, until a large tumour is formed around the bone, so that in all cases the shaft is still seen running through the tumour, and is thus distinguishable from the perfect cancer. In all the cases, to which a history is attached, "the disease has returned within the body." Osteo-sarcoma is therefore a malignant disease, though the anatomical elements are those found in the normal, healthy tissues of the body.

One case of *osteoid cancer* is given, and the preparations of the extremely interesting specimens described. The osseous deposits, commencing in the bone, were repeated in the lungs and other organs.

With reference to the purely *enchondromatous tumours*, he declares that the want of a large number of observations renders it impossible to speak with any degree of certainty respecting their character for malignancy.

Myeloid tumours are believed by him to be innocent; by this term "meaning to imply that the result of all observations made by others, as well as ourselves, is, that these tumours, when removed, do not return, and if the patient has died soon after the operation, no other morbid growths have been found in the body." Some of the specimens described are examples of the fibro-myeloid disease, and others of the cysto-myeloid, the loculi into which the tumour is divided by processes of the periosteum passing into it being filled with fluid. The general anatomical formation of these "myeloid tumours is decided and peculiar: a large round tumour is formed at the extremity of the shaft of the bone, forming a striking contrast to the large, long, and irregular-shaped, destructive carcinomatous tumours, or the osteo-sarcomatous growths which simply spring from the outside of the bone."

It is not altogether correct, however, this statement, that the result of all observations declares their innocence, for Mr. Paget believes that they are sometimes malignant, and records two cases in support of his opinion (*Lect. on Surg. Path.*, vol. ii. p. 228).

Two lithographic plates, containing twelve figures, are attached to this paper. Ten specimens of myeloid disease, one of osteoid cancer, one of carcinoma, and one of osteo-sarcoma, are there represented.

VI. *On the Treatment of Purulent Ophthalmia.* By JOHN F. FRANCE.

The volume for 1855, of *Guy's Hospital Reports*, contains a paper upon the same subject by this author, who enjoys considerable reputation in London as an oculist. In that paper a combination of therapeutical means constituting his mode of treatment is recommended, which is thought by the author to possess some originality.

The treatment consists in division of the external canthus, daily local depletion by scarification and leeching, the use of a collyrium of nitrate of silver, from three to eight grains to the ounce, unceasing ablution with poppy-water and alum, one drachm to the pint, the exhibition of mercury, and the use of quinine with a moderately nutritious diet.

From the history of one of these cases, we learn that the patient, a man, suffering from chronic ophthalmia, was inoculated for his cure with purulent ophthalmia at the London Ophthalmic Hospital. Mr. France says of this, with truth, that "the responsibility of exciting so formidable a disease will not lightly be incurred by practitioners who esteem their patients' welfare the paramount consideration." He might, and with justice, have spoken much more harshly than he has chosen to do.

VII. *Ophthalmic Cases.* By JOHN F. FRANCE.

The first case is one of melanotic cancer of the eye, in which the disease having then lasted nine years, the globe was extirpated. The optic nerve was

unsound at the place of division, being infiltrated with melanotic deposit. About two months afterwards "painful lumps formed about her legs and body," and the patient died exhausted seven months after the removal of the primary seat of disease.

In the second case the ocular globe was enucleated, after the method of M. Bonnet, on account of a tumour embracing half the circumference of the globe, and occupying the anterior chamber, though the cornea remained clear. The operation was performed in May, 1857, and no more of the history of the patient is added, excepting that she was convalescent in a few days. The same operation was performed in the third case, with the same result of convalesence in a few days. Both of these cases are very unsatisfactory; in fact, they are useless so far as the conveying of any useful information is concerned.

The fourth case is one of fungous hæmatodes of the globe, treated without operation. The patient, a girl, two and half years of age, had been affected for fifteen months, when she entered the hospital, and she died about seven months afterwards. In this case, the course of treatment adopted was based upon the principle, one that should never be forgotten, that "to prolong life to the utmost span is the acknowledged first duty of the practitioner." These cases are illustrated by a plate containing three figures, which represent the appearance of the three eyes removed by operation.

VIII. *Cases of Idiopathic Fatty Degeneration; with Remarks on Arcus Senilis.* By Samuel Wilks, M. D.

By *idiopathic* fatty degeneration, Dr. Wilks means a fatty degeneration which has no evident cause. In the cases he relates, nine in number, the only appreciable or probable causes were hemorrhages, diarrhœa, or miasmata. All these causes may be considered as producing an anæmia, which, if long continued, will lead to fatty degeneration. The only objection to this is, that the discharges mentioned, the hemorrhages and the diarrhœa, may be the result of the organic changes, and not their cause.

These cases are the more striking that the patients were all comparatively young. They became, without any known cause, more and more feeble, and died. A fatty degeneration of the heart was the most marked and important occurrence at the autopsies; in some cases the liver and other organs were only moderately fatty. At the same time, there was no excess of fat in other parts, and the patients were not wasted.

To these cases one is added to exemplify the very similar condition of fatty degeneration produced by the excessive use of alcohol.

Dr. Wilks is led by the total absence of *arcus senilis* in these cases, to make some general observations on this pathological condition of the cornea, to which of late so much importance has been attached, as indicating a general fatty degeneration of the body, and more particularly of the heart. He does not believe that it indicates any particular change within the body, but that it accompanies concomitant senile changes in the body generally; the term being still applicable if old age should be premature.

In support of his opinion he gives some facts taken from the post-mortem records of the last two years in the hospital, and adds to the cases he has already given in full five others of fatty heart with no arcus, one where it was "partial," and one very "slight." Seven cases are also given of extreme fatty degeneration with valvular disease, in none of which was there arcus. In fifteen cases in which there was arcus senilis, there was no fatty degeneration of the heart. There is but one case of arcus associated with fatty degeneration of the heart in a young subject, and therefore he considers it altogether exceptional. In those cases, and of these seven are cited, in which the arcus does exist with fatty heart in old people, the change is not so much that of the muscle itself, as of the external fat increasing at the expense of the wall of the right ventricle.

Dr. Wilks thinks it highly probable that a confusion in the expression *fatty heart* may lead to these differences of opinion in regard to the connection of this affection with arcus senilis. Two very different pathological conditions may have been included under one name, and the arcus may be connected with one of them and not with the other. In one of these conditions the muscular

tissue of the organ itself has degenerated; in the other there is but little change in the heart, but it is covered with fat. His conclusion is, that the arcus senilis is accompanied by this latter form of fatty heart, and has no connection with the other, but prefers not offering any decided opinion until a great many more observations have been made.

In terminating, some remarks are made in reference to fatty heart in connection with sudden death, and with fatal accidents from the administration of chloroform. In many of the cases of sudden death he has examined, the heart has not been fatty; and, on the other hand, fatty hearts are every week met with in persons who have died a lingering death. He does not believe, either, that there is any connection between the affection of the heart and sudden death during the administration of chloroform.

IX. *On the Causes of Death after Lithotomy.* By Thomas Bryant.

The paper of Mr. Bryant is a very interesting and a very useful one. From the *clinical records* of the hospital, 176 cases of lithotomy were collected; and from the *notes of the necroscopic examinations*, together with those from the above that terminated in death, 40 fatal cases were collated. These materials have all been carefully analyzed.

The following table is given to show the ages at which the operation was performed, and its fatality at the different periods:—

	No. of cases.	Fatal cases.
5 years and under . . .	55	3
6 to 10 inclusive . . .	38	...
11 " 20 " . . .	36	4
21 " 30 " . . .	10	...
31 " 40 " . . .	6	...
41 " 50 " . . .	7	4
51 " 60 " . . .	18	10
61 " 70 " . . .	5	3
71 " 80 " . . .	1	1
	176	25 cases, or 14.20 per cent. were fatal.

From this table it must be concluded, contrary to the general opinion, that lithotomy during the first five years is more fatal than during the next quinquennial period, at least among the patients met with in hospital practice. This is attributed by Mr. Bryant to the powers of the child being then insufficient to counteract the depressing tendency of the operation, with the accompanying loss of blood and shock to the system. Another consideration which may be allowed to have some weight is this, that when calculus makes its appearance in very young persons, contrary to what is the case in after-life, it is, as a general rule, among the most miserable and unhealthy, consequently the worst, subjects for a grave operation.

Nearly all of the 25 fatal cases are given in detail, with the history of the *post-mortem* examinations. In 5 cases the patient never rallied after the operation; the ages were 70, 72, 42, 44, and 48. In 6, hemorrhage was the cause of death; and the same number died also from inflammation of the kidneys, from inflammation of the cellular tissue in the pelvis, and from pyelitis and pelvic cellulitis combined. In 3 cases the pelvic cellulitis was associated with accidental causes, 2 with perforation of the rectum, and 1 with hemorrhage. This inflammation of the cellular tissue in the pelvis, which is the most fatal danger of lithotomy, is believed by Mr. Bryant to arise generally without urinary infiltration, but to be "a result of continuity of structure which has become inflamed from the necessary injury inflicted upon it by the operation, or by the presence of a calculus." Five cases were fatal from pyæmia, 1 from acute cystitis, 1 from peritonitis, and 1 from inflammation of the air-passages after chloroform. In this last case, however, it must be said that the operation was performed in a cold theatre, upon a February winter's day. Chloroform, independent of its own special risks, is not judged by Mr. Bryant to have any influence upon the fatality of the operation.

It is to be regretted that the instrument used in opening the bladder is never mentioned, except in one case, one of those in which the rectum was perforated. Here the "double-cutting edged gorget" was made use of. We take it, therefore, that the ordinary gorget was used in all the other operations.

X. *Cases of Retention of the Menses relieved by Puncture through the Rectum.* By Henry Oldham, M. D.

These cases are two in number; in one, the retention of the menses was the result of congenital absence of the vagina; in the other, the vagina had been injured during labour, and its walls adhered together and cicatrized.

These cases illustrate the ease, safety, and success with which the uterus distended with menstrual fluid may be relieved by puncture through the rectum. As a channel for the flow of the menses, the rectum answers as well as an artificial vagina, and no operation should be performed for any other purpose; "it is far better," as Mr. Oldham says, "that marriage should be known to be a physical impossibility, than that its consummation should provoke disgust, disappointment, and estrangement."

In one of these cases, after the opening had been made four times, at as many menstrual periods, the orifice remained open; in the second, after the first operation the patient never returned to the hospital. The instrument preferred is a sharp-pointed bistoury, with lint wrapped round it, leaving about an inch from the point free.

XI. *Cases of Disease of the Pulmonary Artery and its Valves.* By G. Whitley, M. D.

This paper contains the histories of three fatal cases of disease of the pulmonary artery and its valves, which had been recently under treatment in the hospital, and the histories of three others connected with preparations preserved in Guy's Museum are appended.

In two cases the affection was diagnosed during life by a well-marked *frémissement cataire*, heard loudest towards the upper part of the left side of the chest. The chief general symptoms present in these cases were anæmia and emaciation.

Two plates are added, for the purpose of representing the condition of the parts in the three recent cases.

XII. *On Abscess of the Brain.* By William Gull, M. D.

This paper is one of considerable length, comprising sixty pages; at the same time, it is one of the most interesting and clearly written in the volume. The author thinks that we have no evidence of any such intrinsic perversion of the nutrition of the brain as leads to suppuration, and therefore does not admit the occurrence of *idiopathic* cerebral abscess. It is well to observe that he confines the use of this word to its proper signification, for with some writers it signifies only that the origin is unaccounted for. With the exception of suppuration produced by scrofulous deposit, and of that following direct injury, it is always a secondary result of the suppurative process in some distant part, or of chronic disease about the head. The source of the suppurative tendency it is often difficult to discover; in one of the cases related by Dr. Gull it was found to depend upon chronic suppuration of the mesenteric glands from ileitis in a debilitated subject.

The pathological order of the symptoms in abscess, as deduced from his observations, is headache, local or general convulsions, drowsiness, paralysis, coma. No one of these is pathognomonic; it is their order and duration which give them their characteristic importance. Particular stress is laid upon the headache; "it is different both in character and duration from that symptomatic of tumour. It is rarely paroxysmal and neuralgic, as it is in tumour, but more general and uniform in its expression, as well as more sudden in its rise and acute in its progress." The frequent absence of rigors in cerebral suppuration is noticed.

Sixteen cases of the affection are carefully related, with the *post-mortem* examinations; and to each *remarks* are added.

This paper may be looked upon as particularly valuable as a contribution to

our knowledge of purulent infection. In one case (the ninth) there was chronic suppuration of the mesenteric glands, two collections of pus in the spleen, one in the cortical portion of the right kidney, and abscesses in various portions of the brain. According to the generally received theories of purulent infection, the liver in this case should have suffered before these other organs. A fact worthy of remark, in this connection, is this, that abscess generally forms in the white substance, rarely in the gray, though the latter is the more vascular.

XIII. *Paraplegia from Obstruction of the Abdominal Aorta.* By WILLIAM GULL, M. D.

This paper contains the history of a case of paraplegia which began suddenly while the patient, a shipwright, 34 years of age, was at work in a sitting posture. Previous to the attack the man was in good health, or supposed himself to be. This was in the month of March, 1855, and he did not enter the hospital until June.

"On examining the spine, no tenderness or irregularity could be detected, but, on auscultation, a soft bellows-murmur was audible down the back, but most distinctly at the lower angle of the scapula, on the left side. Percussion elicited some dulness where the murmur was most audible. Anteriorly, under the ensiform cartilage and lower third of the sternum, there was a prolonged bellows-murmur, not heard so distinctly upwards in the course of the aorta, or towards the left axilla. There was no pulsation in the abdominal aorta, nor in the arteries of the lower extremities. The legs were cold, the muscles wasted; no œdema nor any venous turgescence in them." The subcutaneous arteries on the front and back of the trunk were enlarging at the present time (August, 1857), and as the arterial communication between the upper and lower parts of the body became more free, the power returned in the lower limbs. No pulsation was yet discoverable in the abdominal aorta or the femoral vessels, or in any of their branches.

This case is as yet incomplete, but it is so remarkable that Dr. Gull has done well in placing it on record.

A plate, containing two figures, is attached to this paper, for the purpose of representing the appearance of the subcutaneous arteries on the abdomen and back.

XIV. *Contributions to the Practical Surgery of New Growths or Tumours.* Series I.—Cancer. By JOHN BIRKETT.

The author of this paper proposes, "in this and the subsequent series of cases, to illustrate, for students more especially, the natural history of every form of new growth which has come under observation within the walls of Guy's Hospital." Though the histories of the cases which he has chosen for this paper are interesting and valuable to every student, they are particularly so to those who have access to the museum containing the preparations to which he makes reference. The costliness of illustrating the text by coloured drawings, rendered such an advantage impracticable, much as it was to be desired by students at a distance.

In several of the cases related it seems evident that considerable advantage was gained by amputation of the limb in which the disease was situated; the operation being performed, of course, not with the hope of radical cure, but of prolonging life and of assuaging pain. This is quite in accordance with Paget's statement, that the removal of the growth would seem to retard the course of cancerous disease that otherwise would be very rapid.

XV. *Remarks on the Wax Models in Guy's Museum, representing Roseola Cholerica and Roseola Variolosa.* By the CURATOR.

A tolerably uniform eruption has been described by many observers as occurring at a certain stage in cholera in the course of the first or second day after reaction with its secondary fever has set in. This eruption is sometimes in large patches resembling roseola; at others, the spots are smaller, more defined, and less vivid; and at others, there is a rash closely resembling scarlatina. These different varieties are represented by five models. The rash styled roseola variolosa, which accompanies an abortive form of smallpox, "that is, a disease

in which the most violent constitutional symptoms of variola are present, together with the first indication of an eruption, but the latter suddenly ceasing after the evolution of the rash of which we are now speaking," is represented by four models.

These models were made by the distinguished artist, Mr. Towne; and on account of their excellence he received a medal in the fine art department, at the late Paris Exhibition.

XVI. *Description of a Case in which a Urethro-Vesical Calculus was removed.* By Alfred Poland.

The history of this case was communicated on account of the shape of the calculus, which resembled that to which the name of "bar-shot" and "dumb-bell" has been applied by some surgeons. It assumed "somewhat the shape of an inverted old-fashioned German pipe." It was extracted by means of the incisions usually made in ordinary lithotomy—the laying open of the perineum, and the laying open of the urethra, with partial section of the prostate gland. The patient was twenty years of age, and from early infancy had, from time to time, experienced uneasy sensations and pains in the back and urinary organs.

The following explanation is given of the above case as the most rational: "that whilst young the patient had a small urinary calculus form in the kidney, that this passed down the ureter into the bladder, and subsequently escaped into the pouch of the prostate, where it became impacted and made a bed for itself. Here it gradually grew and attained its present size. At some time, probably only a few years back, calculous deposition took place on the posterior and upper part, which gradually extended into the bladder by means of a small peduncle through the cervix; but when entering the cavity fresh depositions took place, and increasing to the size depicted."

The paper is accompanied by a short appendix of six recorded cases bearing upon the subject. It is illustrated by eight wood-cuts, and a lithographic plate representing a section of the calculus, and also an imaginary sketch of the side view of a bladder, prostate, and penis, showing the probable position of the calculus as met with in the operation.

XVII. *Notes on Cases of Black Urinary Precipitate.* By H. M. Hughes, M. D.

In the last volume of *Guy's Hospital Reports*, together with some other cases of a somewhat similar nature, Dr. Hughes reported one where a young girl, suffering from abdominal disease of a scrofulous character, passed urine which, clear when passed, when boiled and mixed with nitric acid, let fall a dense black precipitate, the chemical constitution of which was not ascertained.

In this communication he gives the history of another, where the same phenomenon was witnessed in the urine, the patient here being a man 50 years of age. In this case, also, there was some abdominal disease, "below the region of the liver was felt a firm tumour, nearly as large as a two-penny loaf, which distinctly passed under the hand placed upon it, when the diaphragm descended upon deep inspiration."

Dr. Hughes states that he has never seen or heard of this except in the two cases recorded, though he has had nearly thirty years' experience in one of the largest hospitals of Britain; "during which time, in many hundreds, perhaps thousands of instances, the urine has been examined by heat and nitric acid."

XVIII. *Sequel of a Case of Successful Trephining of the Skull for Rupture of the Meningeal Artery performed years ago.* By Edward Cock.

The patient whose history is here given had been operated upon in 1841, and the case is fully related in vol. vii., 1st series, of *Guy's Hospital Reports.* He was then forty-six years of age, and the operation was performed to relieve compression of the brain from hemorrhage, there being no fracture of the skull. He left the hospital well with the exception of occasional epileptic fits, and continued so until 1855, when he returned with partial hemiplegia, which had followed one of these attacks. He died in an apoplectic fit a few months afterwards. At the *post-mortem* examination the brain was found softened, and the bloodvessels throughout the brain were extremely diseased; the ventricles contained three or four ounces of blood, and a large quantity of semi-coagulated

blood was found in the brain in the neighbourhood of the seat of the operation. As regarded the opening made by the trephine it was not replaced by the growth of any new bone, but it was filled by a tough membrane composed of the integument on one side and the dura mater on the other.

XIX. and XX. These two papers are by ALFRED S. TAYLOR, on *Poisoning by Tartarized Antimony*, with medico-legal observations on the cases of Ann Palmer and others, and on the *Detection of Absorbed Strychnia and other Poisons.*

These papers occupy 133 pages, and possess great interest for the medical jurist, to whose attention we recommend them. W. F. A.

ART. XXII.—*Researches on Epilepsy: its Artificial Production in Animals, and its Etiology, Nature, and Treatment in Man.* By E. BROWN-SEQUARD, M. D., Professor of Physiology at the Cooper Institute, N. Y., etc. etc. Republished from the Boston Medical and Surgical Journal, from Nov., 1856, to Nov., 1857. Boston, 1857. 8vo. pp. 82.

IN a course of vivisections, Dr. Brown-Séquard found that certain injuries of the spinal cord, in animals, produced convulsions of an epileptic character. These injuries were—1st. A transverse section of a lateral half of the cord; 2d. A transverse section of the two posterior columns of the cord, of its posterior cornua of gray matter, and of a portion of the lateral columns; 3d. A transverse section of either the posterior columns, or the lateral, or the anterior alone—when the incision has been deep enough to implicate the gray matter; 4th. A transverse section of the entire cord; and 5th. A simple puncture.

Convulsions were more especially the consequence of the first, second, and fourth of these injuries, especially when inflicted on that part of the cord which extends from the seventh or eighth dorsal to the third lumbar vertebra.

In other experiments, few in number, the section of the central gray matter, with but slight injury to the white matter of the cord, was followed by epileptiform convulsions.

The convulsive paroxysms usually occur during the third or fourth week after the injury. In some cases they began during the second week, or a day or two before. At first the paroxysm consists only in a spasm of the muscles of the face and neck, on one or both sides, according to the extent of the transverse incision, and is of short duration. After a few days the paroxysm becomes more complete, and all the parts of the body, not paralyzed, are convulsed.

The parts convulsed vary according to the seat of the spinal injury. When this occurs near the last dorsal vertebra, or the first lumbar, and consists of a section of a lateral half of the cord, the convulsions affect all parts of the body, excepting the posterior limbs on the side of the injury. When the section implicates the two posterior columns, a part of the lateral columns, and the gray matter, the convulsions are universal, but most violent in the anterior parts of the body. When the incision of the cord is on a level with the last dorsal vertebra, and implicates the two anterior or the two lateral columns, the convulsions are ordinarily limited to the anterior portion of the body, but not always; the posterior limbs are at the same time affected with very strong tetanic spasms. After a transverse section of the central gray matter, or of the whole spinal cord in the dorsal region, the convulsions are confined to either the anterior or posterior parts of the body.

The convulsions may occur spontaneously, or after certain excitations, as a forcible suspension of respiration for a couple of minutes, or pinching the skin of certain parts of the face and neck. If there is a transverse section of only one lateral half of the spinal cord, irritation of the side of the face and neck on the same side as the injury gives rise to convulsions; and if both sides of the cord have been injured, irritations of both sides of the face and neck are

followed by convulsions. The parts which, when irritated, give rise to convulsions are confined to certain parts of the face and neck. In the face, irritation of the parts which are animated by the ophthalmic nerve is not followed by convulsions; and only a few of the filaments of the two other branches of the trigeminal nerve produce convulsive paroxysms when irritated; these are, more especially, the sub-orbitary and auriculo-temporalis—the same property is possessed also, perhaps, by a few filaments of the second and third cervical nerves. The nostrils, the lips, the ears, the skin of the forehead and of the head may be irritated without the production of convulsions, as may also the parts in the neighbourhood of the median line of the neck, either in front or behind.

Dr. Brown-Séquard ascertained that it was not in consequence of the pain produced by the irritation, in these experiments, that the convulsions were brought on. Thus, in cases where the incision of the spinal cord implicated only one of its lateral halves, irritation of the opposite side of the face or neck does not produce convulsions. In these cases, also, the posterior limb on the same side with the injury is in a state of hyperæsthenia, and the most violent irritation of that limb does not produce convulsions; again, severe irritation is not required to bring on the convulsive paroxysm, it is sufficient sometimes to merely touch or even blow upon the face or neck to excite convulsions; while, it can be shown, that the parts about the face and neck have not a greater amount of sensibility than the other parts of the body.

"The production of fits by the irritation of certain parts of the neck and face seems to belong to reflex actions. It is well known that an irritation of the skin and of the mucous membranes may easily produce certain reflex movements, which very rarely take place after an irritation of the trunks of the sensitive nerves. For instance, coughing is almost a constant result of an irritation of the mucous membrane of the larynx and of the bronchial tubes, while it is very rarely produced by an irritation of the trunk of the par vagum. Something similar exists for the production of the convulsive fits when the face is irritated in animals upon which the spinal cord has been injured. If we lay bare the nerves of the face and neck of these animals we find that even the greatest irritations upon them do not produce a fit. Besides, if we dissect a large piece of the skin of the face, so as to let it be in connection with the nervous centres only by the superorbitary nerve, we find that the irritation of this piece of skin is still able to produce convulsions, while the irritation of the very nerve which connects it with the brain does not produce any. It seems, therefore, that it is in the cutaneous ramifications of certain nerves of the face and neck that resides the faculty of producing convulsions in the animals upon which I have injured the spinal cord. There is, in that case, as I will show hereafter, something resembling what takes place in man in cases where a ligature around a limb is sufficient to prevent a fit of epilepsy."

The following the author believes to be the conclusions deducible from the facts thus far set forth: 1st. That an injury of the spinal cord may give rise to an epileptiform affection. 2d. That there is a relation between certain parts of the spinal cord and certain branches of a portion of the nerves of the face and neck. 3d. That epileptiform convulsions may be the constant effect of slight irritations of certain nerves. 4th. That even when an epileptiform affection has its primary cause in the nervous centres some cutaneous ramifications of nerves not directly connected with the seat of injury in these centres have a power of producing convulsions, when other nerves, even directly connected with them, have not. 5th. That the ramifications of certain nerves may have the power of producing convulsions, while the trunks of these nerves have not this power.

Dr. Brown-Séquard adduces a number of observations from different writers on nervous diseases, which would seem to show that, in the human subject, the peculiar disturbance of the cerebro-spinal axis which constitutes epilepsy may be generated by alterations of different parts of this nervous axis and by many nerves.

In regard to the division of epilepsy into *centric* and *peripheral*, the author endeavours to show that even in cases where the disease appears, most certainly, to be of peripheral origin, it may sometimes be, in reality, of centric

origin. To determine the fact during the lifetime of the patient is often impossible.

He points out the very great analogy which exists between the aura epileptica in man and the pain originating in the skin and face of the animals operated on. In neither does the trunks of the nerves seem to have the power of producing convulsions, but only their ramifications in the skin or in the muscles. If there is induced an interruption of nervous transmission between the skin and the nervous centres, no paroxysms afterwards occur, or only in greatly diminished frequency. The doctor has collected many cases of epilepsy attended with an evident aura epileptica, in which either a diminution of the fits, or, as was more frequently the case, an entire suspension of them took place after the interruption of nervous transmission between the starting point of the aura and the nervous centres was effected by ligature of a limb or finger, section of one or many nerves, amputation of a limb or other part, elongation of the muscles which are the seat of the aura, or cauterization by various means of the part of the skin from whence the aura originates.

Dr. Brown-Séquard is led to believe, from what occurs in animals after an injury of the spinal cord, and from some cases observed in man, that the existence of a particular spot capable of producing a convulsive paroxysm when irritated is not of rare occurrence in epileptic patients, which spot may or may not be the starting point of an aura.

After presenting a number of facts having a bearing on this particular question, the doctor remarks: "On one side, therefore, we find that an irritation coming from the skin or a mucous membrane may produce fits without being felt; whereas on another side, when there is the feeling of aura epileptica, the variety of the sensations, and their feebleness, often show that it is not they which cause the fit, so that we must admit that even then it is a peculiar, unfelt irritation which produces the attack. In my animals, as I have tried to prove, it is not the pain caused by pinching the skin of a part of the face and neck which produces the fit, but *a peculiar kind of irritation*. Perhaps the special irritation which generates a fit gives sometimes a sensation quite special also, and which cannot be described. If we take notice of these three sets of facts—1st, that there are cases of epilepsy in which an irritation arising from the skin, or from the neighbouring parts, may cause fits without being felt; 2dly, that by pressure or galvanism we may produce in a part the kind of unfelt irritation which causes fits; 3dly, that such a part being found, epilepsy may be cured by either the application of ligatures, the section of a nerve, or cauterizations, &c., it becomes evident that it is of the greatest importance to try to find out in epileptics who have no aura epileptica, if there is not a part of the skin or muscle from which arises an unfelt irritation causing the fits. To ascertain the state of things in this respect, various means may be employed. If the fits are frequent, and if they come at regular times, it will be found, by placing tight ligatures around the limbs, whether the attacks are due to an irritation coming from these parts or not. Among other means of detecting the existence or absence of a peripheric irritating cause of the fits are the following: pressure upon various parts of the body; the application of localized and powerful galvanic currents; the application of ice and of a wet and warm sponge, &c. If any part is the seat of a pain, even if this pain seems to have no relation with the fits, it will be necessary to ascertain whether pressure, galvanism, &c., applied upon this part, produces an attack. If it is in a limb that a pain exists, a ligature will decide the relation of the painful spot with the fits. In cases where there is a cramp in some of the muscles, or in one only, at the beginning of the fit, the inducement of a cramp by galvanism might decide if the attack is due to the irritation of the sensitive nerve of the contracted muscle, or if the cramp is nothing but a manifestation of the attack. If the initial cramp exists in a limb, an elongation of the contracted muscle, or a ligature, might lead to the solution of the question."

The danger of producing a fit by these means should not, according to the author, deter us from their use; the fit itself, especially when we are prepared for it, being a small evil in comparison with the great good that may be derived from such a trial.

After adducing a series of arguments to sustain his position as to the influence of an aura epileptica, or of a peculiar kind of irritation of the peripheral nerves, as a cause of epileptic fits, Dr. B. S. enters into a brief examination of the various doctrines concerning the seat and production of epilepsy heretofore advanced; and, having pointed out what he considers their deficiencies, he proceeds to present his own views in elucidation of some of the principal questions involved in the pathology of epilepsy.

Having by experiments, in which the brain proper was removed, and others, where the cerebellum and even the whole basis of the encephalon excepting the medulla oblongata and pons Varolii were also removed, shown that epileptic convulsions are produced independently of the brain, he concludes that epilepsy must have its seat in either the pons Varolii, the medulla oblongata, or the spinal cord, or in these three parts together. He considers it to be very probable that its seat is in the upper part of the spinal cord—in the medulla oblongata and the pons Varolii—where the roots of the trigeminal and of the first spinal nerves have their origin.

Considering the parts of the body where convulsions first occur, according to Dr. B. S., we arrive at the conclusion that the seat of epilepsy is very various. Usually, the first spasmodic contractions occur in the muscles of the larynx, of the neck, of the eyes, of the chest, of the face, and in the bloodvessels of the brain proper, showing that the disease is ordinarily seated in the encephalon or upper parts of the spinal cord, or in both. But that its seat may be also in other portions of the spinal cord would seem to be proved by the occurrence of the first spasmodic contractions in one of the limbs, either the inferior or superior.

"After the first spasms all the muscles of the body may be attacked with convulsions; so that, if we take notice of the loss of the actions of the brain proper, there is ground for thinking that the seat of the disease is both in those parts of the cerebro-spinal axis where reside the faculties of perception and volition, and in those endowed with the reflex faculty; but this view, Dr. B. S. remarks, is correct only in appearance. We have shown, he says, that the loss of perception and volition does not prove that epilepsy has its seat in the brain proper; we will try, in a moment, to show the great probability that a contraction of the bloodvessels of the brain proper, due to an irritation of their nerves in the spinal cord and medulla oblongata, causes the loss of the cerebral faculties; and, as regards the increase of the reflex faculty, we will show that a partial and a local increase is sufficient for the production of fits."

Dr. B. S. believes that epilepsy is always the result of an excitation of the cerebro-spinal axis. This excitation he supposes may, in some cases, arise from chemical and physical changes occurring in the elements of the nervous centres in consequence of bad nutrition or other causes.

"As physiology teaches that an irritation of the simple direct motor side of the cerebro-spinal axis cannot cause general convulsions, we are entitled to consider as reflex the convulsive movements which result from direct excitations of the nervous centres, as well as those which result from irritations coming from peripheric nerve-fibres. The so-called *centric* and *eccentric* causes of excitation of epileptic fits, both act on or through the sensitive or excito-motory side of the cerebro-spinal centres, and consequently both act on the reflex faculty of these centres, so that they ought both to be called reflex excitations."

Dr. B. S. believes epilepsy to depend, in a great measure, on an increased reflex excitability of certain parts of the cerebro-spinal axis. He discards the term reflex faculty or property. In all muscular and nervous tissue, he remarks, we have two distinct properties: that of producing actions—the force of which may vary extremely—and a property of receiving excitations, which we call excitability. One of these may be very strong, while the other is very weak. In like manner, as many experiments have convinced him, the reflex faculty of the cerebro-spinal axis is composed of two elementary vital properties, one of which he names *reflex excitability*, and the other the *reflex force*. The one of these vital properties may be in excess with diminution of the other. In most, if not all epileptics, according to Dr. B. S., the reflex excitability is increased, while the reflex force is rarely above, and is often below its normal standard.

Even though the reflex excitability may not be much increased, it may be, however, sufficient for the production of the fit when certain excitations are present.

In regard to the production of epilepsy by a poison in the blood, Dr. B. S. admits that such may be the case when the functions of the kidneys, liver, skin, or other depurative organs are suspended, and, in consequence, certain deleterious matters are allowed to accumulate in the blood, and also in cases where poisonous substances are admitted from without, as lead, strychnine, cyanhydric acid, etc. According to Dr. B. S., nearly all of these latter poisons act only as causes of convulsions by increasing the reflex faculty of the cerebro-spinal centre—they give to the nervous centres the faculty of causing convulsions *when they are irritated*, but *they do not irritate*. He knows of no poison which causes convulsions by a direct irritation of any part of the nervous system, excepting carbonic acid when it is allowed to accumulate from any cause in the blood. While it seems to destroy the reflex power of the cerebro-spinal centre the decarbonized blood, at the same time, *irritates* violently this centre, and, therefore, causes directly powerful convulsions.

While he admits that in epilepsy there is very generally, perhaps always, an increased reflex excitability, with or without an increased reflex force, he recognizes, also, that there is, in a great many cases of epilepsy, a special kind of excitation acting on the nervous centres.

"There are, therefore, three distinct elements for the production of a fit: 1st. Increase of the *force* of the reflex property; 2d. Increase of the *excitability* of this property; and 3d. An excitation of a special nature, or a very violent one. Of these three elements, the last two are the most frequent, and perhaps, as we have said, the first of these two is essential.

"As regards the share of a special excitation in the causation of epilepsy, Dr. B. S. remarks, the cases we have related of the cure of this disease by the section of a nerve, by ligatures, &c., show how considerable it may be. But in my animals we have, in this respect, a better illustration. When the nerves going to the parts of the face and neck, by the irritation of which we are able to cause fits, are laid bare, we find that their irritation does not produce convulsions. If, in these animals, the fits depended only upon an increased reflex excitability of the parts of the nervous centres whence the nerves originate, we should see convulsions follow when we irritate the trunks of these nerves. As there are none, we must admit that when an irritation (and a slight one is often sufficient) to the cutaneous ramifications of these nerves in the skin causes a fit, there is something special in the nature of the excitation springing from these cutaneous nerves. However, there is in my epileptic animals an increased degree of reflex excitability in the cerebro-spinal axis, as we find, even after the section of the nerves of the face and neck, that they have convulsions sooner, and lasting longer, than in a healthy animal, when we prevent them from breathing for two or three minutes."

Dr. B. S. admits it as *possible* that, without any increase of excitability, certain irritations of some portions of the encephalon may produce fits of epilepsy. The least puncture with a needle or pin of the *processus cerebelli ad pontem*, and, as he has found, of the auditory nerve, and of certain parts of the medulla oblongata, in mammals, is sufficient to produce fits of a peculiar kind of epilepsy, in which the animal rotates around the longitudinal axis of his body in consequence of the convulsions. In man, this kind of epilepsy has been frequently observed, excepting that the fits in place of lasting, as in animals during life, are of short duration, and it may be that in him it has been produced, even when there was no increased reflex excitability, as it is in animals.

In respect to the paleness of the face, the spasm of the larynx, and the loss of consciousness, which, either one or all of them, usually present themselves in the commencement of the epileptic paroxysm, Dr. B. S. remarks:—

"When the excitation takes place in the spinal cord and the basis of the encephalon, which gives rise to the fit, the nerve-fibres which go to the head are irritated and produce a contraction of its bloodvessels. Of course this contraction expels the blood, and, in consequence, the face becomes pale. Very often another effect depending on the nerve-fibres of the cervical sympathetic is produced—the dilatation of the pupil. But the reverse sometimes takes

place—a contraction of the pupil occurring instead of a dilatation. This last phenomenon is easily explained by admitting that the excitation in the nervous centres takes place near the origin of the third and fifth pair of nerves, and not of that of the cervical sympathetic, as is the case when the pupil dilates. The paleness of the face, and the dilatation of the pupil, when it exists, soon disappear, chiefly in consequence of the obstacle to the venous circulation in the head, and of the state of asphyxia. The cause of the obstacle to the return of blood from the head is not only the contraction of the muscles of the neck, as Dr. Marshall Hall seems to think, but also the state of the chest.

"Among one of the first symptoms of the fit, and as a cause of the cry, there is a spasm of the laryngeal muscles, and a contraction of the expiratory muscles. This contracted state of the chest acts on the heart so as to diminish the force of its beatings, as is the case in the experiment of compressing the chest, made by E. Weber and others, and it acts on the veins in preventing the circulation in them. Although compressed, and unable to beat freely, the heart quickly recovers an apparently great strength; the blood, losing its oxygen and becoming black, acts as a powerful irritant upon the central organ of circulation, so that palpitations, sometimes very violent, occur. Nevertheless, the pulse often remains weak, because the quantity of blood sent to the arteries by the heart is smaller than usual, partly on account of the obstacle to the venous circulation.

"We think that at nearly the same time, when the origin of the branches of the sympathetic nerve going to the bloodvessels of the face receive an irritation in the beginning of a fit of epilepsy, the origin of the branches of the same and other nerves going to the bloodvessels of the brain proper, also receive an irritation. A contraction then occurs in these bloodvessels, and particularly in the small arteries. This contraction expelling the blood, the brain proper loses at once its functions just as it does in a complete syncope. Now, as it has been well proved by the researches of Kellie, Abercrombie, John Reid, Henle, and Foltz, that the quantity of liquid in the cranio-spinal cavity cannot change suddenly, it results that if there is less blood in the brain proper there must be more in the basis of the encephalon and in the spinal cord. In consequence of the impediment to respiration, the blood sent to the encephalon, as well as to other parts of the body, contains but little oxygen, and is charged with carbonic acid, so that the large quantity of blood accumulated in the basis of the encephalon—the medulla oblongata, the pons Varolii, the tubercula quadrigemina, &c.—and in the spinal cord, is endowed in a high degree with the power which I have shown that such blood possesses, *i. e.* to excite convulsions. It may be, as Henle has supposed, that the basis of the encephalon is also excited to cause convulsions in consequence of the pressure exerted upon it by the accumulation of blood. The spinal cord, also, in all its length, is then excited to produce convulsions by the blood which circulates in it."

The foregoing views are defended and enforced by Dr. B. S. in a long series of facts and arguments.

In respect to the production of the change in the cerebro-spinal axis which chiefly constitutes epilepsy, that is, the augmentation of the reflex excitability, he thinks it may take place in two different ways—by a *direct* abnormal nutrition, as in syphilitic, scrofulous, or rheumatic epilepsy; or by an *indirect* abnormal nutrition due to some excitation from a peripheric or a central part of the nervous system. The *modus operandi* of such excitations, Dr. B. S. does not profess positively to know; he thinks it likely, that, in a number of cases, at least, it is through the bloodvessels of the cerebro-spinal axis that these excitations operate to change the nutrition of this nervous axis.

As to the change in certain parts of the skin, mucous membrane, &c., which renders these parts capable of exciting epileptic seizures, he considers it to consist more in alterations in the nature of the excitations that may spring from peripheric nerves than from an increase in the felt excitations coming from these nerves.

"We have shown already that in our animals the skin is not more sensitive in the parts of the face which are capable of exciting fits than in the other parts of the face which have not that power. In man, as we have also shown else-

where, it is to the nature of the excitation and not to the degree of the pain, springing from some peripheric nerve, that we must attribute the production of the fits. The fact that excitations, starting from the periphery and causing fits, may not be felt; and the fact that when there are sensations accompanying these unfelt excitations, they may vary as to their kind, and sometimes be very feeble, certainly are important arguments to show that the real exciting cause of the fit is something which is not felt."

The mode of production of the most interesting phenomena of a complete fit of epilepsy, the enterchainment and sequence of the several pathological disturbances to which the phenomena of epilepsy owe their origin, are shown by the following table:—

"CAUSES.	"EFFECTS.
1. Excitation of certain parts of the excito-motory side of the nervous system.	1. Contraction of bloodvessels of the brain proper, and of the face, and tonic spasm of some muscles of the eyes and face.
2. Contraction of the bloodvessels of the face.	2. Paleness of the face.
3. Contraction of the bloodvessels of the brain proper.	3. Loss of consciousness, and accumulation of blood in the base of the encephalon and in the spinal cord.
4. Extension of the excitation of the excito-motory side of the nervous system.	4. Tonic contraction of the laryngeal, the cervical, and the expiratory muscles—laryngismus and trachelismus.
5. Tonic contraction of the laryngeal and of the expiratory muscles.	5. Cry.
6. Farther extension of the excitation of the excito-motory side of the nervous system.	6. Tonic contractions extending to most of the muscles of the trunk and limbs.
7. Loss of consciousness, and tonic contractions of the trunk and limbs.	7. Fall.
8. Laryngismus, trachelismus, and the fixed state of expiration of the chest.	8. Insufficient oxygenation of the blood and general obstacle to the entrance of venous blood in the chest, and special obstacle to its return from the head and spinal canal.
9. Insufficient oxygenation of the blood, and many causes of rapid consumption of the little oxygen absorbed and detention of venous blood in the nervous centres.	9. Asphyxia.
10. Asphyxia and, perhaps, a mechanical excitation of the base of the encephalon.	10. *Clonic convulsions everywhere;* contractions of the bowels, of the bladder; of the uterus; erection; ejaculation; increase of many secretions; efforts at inspiration.
11. Exhaustion of nervous power generally, and of reflex excitability particularly, except for respiration. Return of regular inspirations and expirations."	11. Cessation of the fit; coma or fatigue; headache; sleep."

In respect to the *effects* of epilepsy, Dr. B. S. remarks that these depend on three circumstances: 1st, the absence or great diminution of circulation in the brain proper in the beginning of a fit of epilepsy; 2d, the circulation of black blood through the nervous centres; and 3d, the pressure upon many parts of the base of the encephalon and of the spinal cord by the accumulation of blood in their vessels. From these causes result various disorders of the mind, of the senses, and of the vital properties of the nervous centres. For an analysis of the more important of these he refers to Dr. Russell Reynold's work on *Diseases of the Brain.*

Under the head of treatment, Dr. B. S. lays down eleven general propositions—

1. The first thing to be done in a case of epilepsy is to find out if its origin is peripheric.

2. If it be ascertained that epilepsy is of peripheric origin, proper means are to be employed to separate the nervous centres from this origin, or to remove the cause of the excitation entirely. The application of ligatures should be tried first. Sometimes it happens, as in a very curious case recorded by Recamier, that the aura will disappear from one place and reappear in another; it will be well to pursue it thither, and apply ligatures in the new place.

3. If the ligatures fail, the nerve animating either the part of the skin from which originates the aura, or the muscle or muscles which are the first convulsed, must be laid bare, and sulphuric ether thrown upon it. This might, perhaps, be sufficient to cure the affection; if it is not, then the nerve must be divided.

4. Amputation of a limb condemned as barbarous and unnecessary.

5. Blisters, setons, caustics, etc., in the neighbourhood of a part from which an aura originates, are sometimes sufficient, but are less certain than the application of a red hot iron.

6. The best means of treating epilepsy seems to be the application of a series of moxas along the spine, and particularly to the nape of the neck.

7. The nutrition of the nervous centres may be so modified as to effect the cure of epilepsy, principally by medicines which act on the bloodvessels, as strychnia, but especially by those which cause contractions of these vessels, as atropia, ergot of rye, etc.

8. Even when it would seem from the circumstances of the case to be indicated, trephining should not be resorted to until cauterization and other means of producing a modification of the conditions of the skin of the head have failed.

9. Cauterization of the mucous membrane of the larynx is an excellent means, not only of diminishing or preventing the spasm of the larynx, but as a means of producing a modification in the nutrition of the medulla oblongata.

10. As a means of treatment too much neglect, the possibility of the transformation of epilepsy into intermittent fever, has been proved by facts observed by Drs. Selade, Dumas, &c. Between the two diseases there is supposed to be strong analogies. It is suggested, therefore, as of the utmost importance to endeavour to generate fever and ague in epileptics as a means of cure.

11. Hygienic means are as important as the medical treatment, and sleeplessness ought to be as much combated as the disease itself.

As regards the treatment of the fits, the prevention or diminution of asphyxia cannot be too much insisted on, as it seems certain that the circulation of black blood in the nervous centres prepares for the production of future fits. For this object the best means are—1st, dashing very cold water on the face; 2d, the inhalation of chloroform.

We have endeavoured to present a very full outline of the views advanced by Dr. Brown-Séquard in explanation of the etiology, nature, and treatment of epilepsy. The facts and arguments upon which these views are based are deserving of a careful study on the part of every practitioner. The entire treatise is replete with physiological and pathological propositions of deep interest and importance which strongly press it upon the notice of the profession.

D. F. C.

ART. XXIII.—*A Report on Diseases of the Cervix Uteri; read before the Medical Society of the State of Georgia, at the Annual Meeting in Augusta*, April, 1857. By JOSEPH A. EVE, M. D., Professor of Obstetrics and Diseases of Women and Children, in the Medical College of Georgia. 8vo. pp. 42. Augusta, 1857.

WHEN we take into consideration the degree of attention which, of late years, has been directed to the investigation of the morbid conditions of the uterus, and the amount of talent and experience that have been brought to the task, it was but reasonable to anticipate that a much greater degree of unanimity would exist among physicians in reference to the nature of uterine dis-

eases—the frequency of their occurrence—their diagnosis—their pathological importance, and their most successful management.

When we turn, however, to the current records of our profession, or hark to the lessons of distinguished teachers, we find that, on all the leading questions connected with the subject of uterine pathology and therapeutics the utmost discrepancy of opinion prevails. By authorities of equal weight—having equal opportunities for the acquisition of accurate information, and who are apparently equally prompted by the desire to arrive at correct conclusions themselves, and by the promulgation of their observations to lead others "into the way of truth," the most discordant and contradictory views have been advanced—the most opposite plans of treatment have been proposed. One class insists that displacements and flexions of the uterus, and inflammation and ulceration of its mouth and neck are of frequent occurrence throughout all the periods of woman's life, from puberty onwards, and refers to these several morbid conditions of the womb, not merely menorrhagia, dysmenorrhœa, leucorrhœa, sterility, and abortion, but the production likewise of nearly every deviation from health observed in the female—the majority of the diseases with which she is attacked—especially those of a nervous and of a chronic character. While, by another class, the morbid conditions of the uterus which are esteemed by the first to play so constant and important a part in the pathology of the female it is maintained, have no such pathological importance—that even as local affections they are rather inconvenient than dangerous, in reference to either their direct or remote results; and in support of the correctness of their conclusions, each party refers to direct observations and a long array of statistics.

Which of the two is correct can only be determined by future clinical investigations, in the prosecution of which every source of fallacy is carefully excluded—whether arising from a partial or one-sided examination of the cases investigated, and of the results of the therapeutic measures to which these are subjected, or from the preconceived views of the investigator as to their true pathological character, or the actual effects of the remedial means employed. The question as to the frequency and pathological importance of the abnormal states of the uterus is still an open one—and, when finally settled, it will be found, we suspect, that, in relation to it, as in relation to almost every other mooted question in pathology and therapeutics, truth lies midway between the two extremes presented in the opinions now advocated by different writers and teachers. From the results of our own observations, which have not been very limited in extent, nor, we trust, carelessly conducted, the conclusion to which we have been led is, that while displacements and flexures of the womb, and inflammation and ulceration of its os and cervix, are much less frequently the cause of constitutional suffering and of serious disease in the female sex, than they are reputed to be by many of our leading authorities on the maladies of women, yet, in respect to, more especially, inflammation of the uterine neck and orifice and of its cervical canal, the frequency of its occurrence is unquestionable, and to it must be referred most, if not all of the local and functional disorders of the uterus, and these, in their reactions on the organs of digestion, hæmatosis and nutrition, and on the nervous centres must be considered, if not the immediate, at least a frequent indirect cause of disease in remote parts. We have the most unquestionable evidence that the inflammatory conditions of the uterus and of its neck induce gradually a state of debility and anæmia, and of deficient vital energy which must necessarily impair the general health and comfort of the female organism, and, at the same time, render her especially prone to the attack of intercurrent disease.

Dr. Eve, in the report before us, confines his remarks strictly to simple inflammation and ulceration of the os and cervix uteri. He avows himself as of the party of those who believe that inflammation of these parts, with or without ulceration, is "of *very frequent* occurrence," and without invoking the corroborative support of those who entertain views similar to his own, he does not hesitate to express the opinion, based upon his own observation and experience, that inflammation of the uterine cervix and its sequelæ are of great pathological importance, whether considered locally or generally; in their bearing on the uterus itself, in its different conditions, unimpregnated, pregnant, and par-

turient, or in their effects on the general system, exciting, by nervous communication, disease in other and often distant organs.

"It must be admitted," Dr. Eve states, with much candor, "that inflammation, and even ulceration, sometimes exist for a long time, without materially affecting the general health, or in a great degree deranging the functions of the uterus; for we meet with cases in which menstruation continues with surprising regularity, as respects time, quantity, and freedom from pain, without causing sterility, or inducing abortion, and in which the general system does not appear to be cognizant of the local suffering, the disease being only evinced by symptoms referrible to the uterus itself; but these are exceptional cases."

But, in the greater number of instances, it is not, he believes, because of their little pathological importance, or the want of clear and prominent symptoms indicative of their presence that the disordered states of the uterus are so often overlooked, but that the failure to recognize them is altogether due to the ignorance or carelessness of the practitioner; the sufferings and death of the patient never having been traced to the proper cause, nor the influence that uterine disease may have exercised in rendering other diseases more serious and often mortal, having been overlooked entirely or not properly appreciated. In which sweeping accusation of ignorance and carelessness, are included more than one whose general professional talents, closeness and accuracy of observation and honesty of purpose have heretofore been unimpeached.

In respect to the treatment of inflammation of the cervix uteri and its results, Dr. Eve states that, for many years, while his reliance was almost exclusively on medical treatment, with the prescription of vaginal injections, blisters, cups, etc., to the sacrum and loins, his success was only partial and very unsatisfactory; whereas, since he has adopted the medico-chirurgical treatment, as it has been termed, cases of simple inflammation and ulceration of the cervix uteri are encountered by him with more confidence and certainty of cure than are any other cases of chronic disease; "their recovery being only regarded as a question of time, depending on proper perseverance on the part of the patient."

"When the inflammation is at all acute, scarification of the cervix, externally or internally, and the direct application of leeches, are of the very first importance, and general antiphlogistic treatment avails much; also, soothing and sedative lotions, and revellents to the sacrum and the hypogastric and inguinal regions. But when the inflammation is chronic, especially when there is ulceration, nothing, in my opinion, can be so effectual," Dr. Eve avers, "as the application of the milder caustics directly to the inflamed or ulcerated surface."

He prefers the solid nitrate of silver, in larger sticks than usually found in the stores, applied by means of the speculum forceps, through a speculum, to the cervix externally, and introduced directly into the cervical canal. The application being repeated every six, seven, or eight days, avoiding menstrual periods, and two days before and after.

In the intervals between the applications of caustic, Dr. Eve directs astringent vaginal injections, two or three times daily, consisting of a solution of alum alone, or with tannin, or in sage tea. He considers the sulphate of zinc also an excellent astringent, and when there is much irritation, Goulard's extract, diluted, or a solution of morphia in flaxseed tea.

These vaginal injections, he advises to be administered to the patient when on her knees and breast. In this position of the body, the womb, if prolapsed, returns, he remarks, to its natural situation, as soon as air is allowed to enter the vagina, which is in a corresponding degree lengthened and capacitated to hold a larger quantity of the lotion, which may be retained as long as desired, by the patient pressing a napkin firmly against the vulva previously to lying down. If she be too weak to assume or maintain the above position, we are directed to elevate the patient's pelvis by means of a pillow. When the injection is administered to the patient whilst she is in a sitting or lying position, only a very small quantity enters, and this passes directly out—doing comparatively very little good.

One great advantage in the treatment of inflammation and ulceration of the

cervix uteri by cauterization is, Dr. Eve remarks, that it allows the patient to take active exercise in the open air regularly and systematically, which is essential to the restoration of her general health and strength, and without attention to which, local affections, generally, are not treated to the best advantage.

"When," says Dr. Eve, "the patient's general health is in all respects good, her sufferings altogether local—local applications are found sufficient alone, without general treatment; but," he adds, "there are very few cases of long standing without some complication, demanding medical prescription. The perfection of practice in these affections consists in the happy blending of medical and surgical treatment. Our limits will not allow us to say much on the subject of the medical treatment. It consists in the adoption of such measures as may be indicated for the removal of sympathetic or concurrent diseases in other organs, and the improvement of the general health of the patient, as through the blood, and in the administration of those remedial agents which may, through the system, act locally on the uterus. For the fulfilment of the first indication, may be called in requisition tonics of all kinds, especially the chalybeates and vegetable bitters, mercurials, laxatives, antacids, nervine stimulants, the regulation of diet, of exercise, and indeed whatever is calculated to improve health and increase strength."

Although our experience has not led us to believe that inflammation and ulceration of the os and cervix uteri are of quite so frequent occurrence, and, consequently, that their pathological importance is near so great, as is asserted by Dr. Eve, we have, nevertheless, perused the report before us with no little pleasure; we have been much gratified at the general good sense, and sound practical views which pervade it, and the gentlemanly tone observed by the author in commenting upon the views of those who hold different views from him, as well in respect to the facts themselves as to the pathological and the therapeutical deductions which legitimately flow from them. D. F. C.

ART. XXIV.—*Observations on Malarial Fever.* By JOSEPH JONES, A. M., M. D., Professor of Physics and Natural Theology in the University of Georgia, Athens; Professor of Chemistry and Pharmacy in the Medical College of Georgia, Augusta, etc. etc. 8vo. pp 84. [From the *Southern Medical Journal*, 1858.]

IF we apprehend correctly the object of these observations, it is to present a series of cases of malarial fever, in which such an exhibit and analysis of the morbid phenomena of the disease is attempted, as will show the derangement of each of the several normal constituents of the human organism, and the changed relation it occupies with each of the other constituents—the disturbance in the relation of the vital with the physical and chemical forces of the body, and, also, a comparison of the several morbid phenomena with the meteorological, geological, and topographical conditions in which the several patients are placed. To present, in other words, in each stage and change of the disease, the condition of the blood, and of the urine, bile, and other secretions and excretions, as determined chemically and microscopically, with the state of the animal temperature, and of the functions of all the organs of the body during life, and with an accurate investigation by chemical analysis and microscopic examination after death of the different tissues and organs, and of their respective products. Taking note at the same time of all the external conditions under which the patients are placed, prior to, and at the time of their seizure, and during their treatment; with the changes produced in the condition of the functions of the organism, and in the state of the blood, and of the different secretions and excretions, by the remedies prescribed.

Dr. Jones has thus laid out for himself a task, as magnificent and important as it is difficult and laborious. A task, which he himself admits, no one inves-

tigator can have either the time, the opportunity, or the requisite talents faithfully and satisfactorily to accomplish, and which must be left to the united labours of a host of observers having at their disposal all the circumstances essential for its successful prosecution.

If, Dr. Jones remarks, it were undertaken by a corps of intelligent, honest, and industrious observers, acting with zeal and unity, while each devoted himself to the careful examination of a single branch in the vast field of inquiry suggested, the results for medical science would be of the most momentous character. It would be made in time to rank among the exact sciences—and instead of the frequent discrepancy now often observed to exist between theory and practice, we should have harmony, and in the mind of the physician doubt and uncertainty would give way to confidence, derived from a clearer insight into the nature of the morbid conditions to be prevented or overcome in each case of disease, either threatened or present, and the means by which its prophylaxis or cure is most certainly to be accomplished.

Such, if not expressed in his exact words, are the anticipations entertained by the author of the benefits to be conferred on pathology and therapeutics by a series of investigations such as he suggests. We admit that from these much light could not fail to be shed upon the pathology of disease, and many important data derived upon which to base a correct and systematic therapeutics.

Investigations of the scope and character of those proposed by Dr. Jones, will, however, not only require numerous observers for their successful prosecution, but time and opportunity for their multiplication in all the varied circumstances under which disease may present itself, and, also, for their careful collation in order to correct the mistakes which are so liable to creep into the examination of questions of so complicated a character as those connected with the true relationship between the various abnormal states of the several fluids of the body, and the particular abnormal conditions of the different tissues, organs, and functions, pathognomonic of the existing disease. Still, vast, tedious, and difficult as is the proposed series of investigations, there is no reason why we should despair of their final accomplishment. Let each one lend, as Dr. Jones has done, his aid, and thus, from the contributions furnished by many labourers, much may be obtained. Although we cannot, with Dr. J., hope that, by the results alone of these investigations, however carefully and faithfully executed, medicine will be rendered an exact science, still, we are willing to admit that the influence they are calculated to exercise in respect to it will be of a most beneficial and momentous character.

We cannot anticipate from the most extended, exact, and multiplied series of microscopic examinations and chemical analyses of the fluids and solids of the body during life, and subsequent to death, any satisfactory revelations in respect to the nature and cause of disease, and the means best adapted to stay its progress, and conduct it to a favourable termination. As Dr. J. correctly remarks, the proper and regular exercise of the vital force of the human organism is associated with a certain constitution and condition of the matter of which that organism is composed. So that, whatever interferes with the normal constitution and condition of the material elements of the system must necessarily interfere also with the normal operation of the vital force—permitting a further and more extensive derangement to occur in the chemical condition, and relative proportions and reactions of the material elements of the organism—in the physical forces with which it is endowed, and in the manifestations of its intellectual and moral functions. We dare not deny that the aberrations in the vital and nervous actions which constitute the most prominent of the phenomena of disease may, in many instances, be the result of preceding derangements in the physical condition of the blood and of the organic matter of which the body is composed: under such circumstances, microscopic and chemical investigations will, it is reasonable to suppose, lend us valuable aid in our inquiries into the nature and starting-point of the morbid actions that present themselves; but, it is to be recollected that there are many facts which would seem to indicate the first impression of the morbific agent to be made, in the majority of instances, primarily upon the nervous system, disturbing first, the vital forces of the system, and, secondarily, the functions of the various

organs, and the condition of the solids and fluids which enter into their composition. Here, it is evident, that our microscopic and chemical investigations—however much light they may throw upon the extent and character of the results of diseased action, are entirely valueless as guides to the nature and operation of the actual cause of the morbid conditions that are detected.

In all our investigations into the pathology of disease, we must keep prominently in mind the fact that the human organism is endowed with vitality—and that by this vitality the action upon it of whatever morbific agents it may be subjected to, is, to a certain extent, modified and controlled. That even in those cases in which we have the strongest reasons for attributing disease to the introduction into the fluids or solids of the body of foreign matters, it is still, nevertheless, true, that the derangements throughout the system to which these give rise—in other words, the entire series of morbid phenomena do not result from the change produced by them in the organic condition of the solids, or the modification they occasion in the crasis of the fluids, but from the disturbance they directly or indirectly cause in the operation of the vital forces. It is not inaccurate, therefore, to assert that, in all cases, disease is the result of abnormal impressions upon the nervous system, causing aberrations to a greater or less extent in its actions; aberrations of the nature of which we can learn nothing by subjecting any one or all the fluids or tissues of the body to microscopic or chemical examination.

The observations of Dr. Jones, as detailed in the publication before us, relate chiefly to the condition of the urine in malarial fever—compared with the state of the skin, the pulse, the respiration, the temperature of the surface, and of the atmosphere, and with the several stages and periods of the disease, and the nature of the treatment pursued. They indicate a commendable amount of industry and habits of cautious investigation in the author. They may be consulted with profit, notwithstanding it would be premature to adduce any general conclusions from so limited and imperfect a series of cases.

D. F. C.

ART. XXV.—*Pathology and Treatment of the Paralysis of Motion.* By J. P. BATCHELDER, M.D., New York. 8vo. pp. 62. 1858.

WE are not very positive that we perfectly comprehend, even in its general outlines, much less in its entire details, the pathology of paralysis as laid down by Dr. Batchelder in the essay before us. Paralysis, he defines to be "the symptom of a disease which mainly affects the voluntary muscles, or the muscles of animal life. The non-communication of the appropriate stimulus to these muscles by the mind constitutes the disease of which paralysis is the symptom."

So far as we are aware, paralysis of motion can result from only one of two causes: 1st. From a simple interruption of the nervous influence—an obstruction or destruction of the road by which the changes leading to sensation travel in the one direction, from the circumference to the centre; and the mandates of volition in the other direction, from the centre to the circumference—that is, a simple interruption, or a complete breaking up of the connection between the nervous centre and the paralyzed muscles; or 2dly. From such a change in the condition of the paralyzed muscles as renders them incapable of feeling or responding to the impulse of the will.

The muscles, when thrown into inactivity from either of these causes, become atrophied and more or less modified in structure, in consequence of which paralysis of motion may continue long after its primary cause has been removed or ceased to operate—the motive power of the affected muscles being impaired as well as their subordination to the control of the will.

Dr. Batchelder would seem to believe that the persistence of the paralysis of motion, after the removal or cessation of its primary cause, is not due simply to the change in the organization and physiological condition of the inactive

muscles, but mainly to the fact that the patient, "having been quiescent for a time, becomes acquiescent from habit, and will not make the slightest effort to move his limbs—indeed, insists that he cannot do it—that it is impossible."

Dr. B. denies that the control of the will over the muscles of animal life is an inherent faculty of the mind, but maintains that it is an acquired one, and, consequently, one that may be lost by disuse; and when lost must be reacquired by a course of training, almost in the same manner that it was acquired in the first instance by the infant. In all that appertains to volition in respect to motion, his doctrine is, that the paralytic must be re-educated.

If we rightly understand Dr. B., he places the primary cause of paralysis in the peripheral extremities of the motive nerves—in what he denominates "the peripheral brain." The nerve-fibres, he tells us, at their origin in the brain and spinal marrow, and also at their distal terminations, are enveloped with the neurilemma. At their distal extremity the ultimate nerve-fibres, and the branches or primitive fibres into which these break up, mingle with the substances by which they are surrounded, and with which they are in immediate contact. The unenveloped termini, sensific or motific, according to the nerves of which they form a part, constitute what Dr. Batchelder denominates the *peripheral* brain, which, he remarks, manifests itself quite independent of its congener, the central brain.

"For example: The heart of a frog, some minutes after exsection, is made to palpitate by pricking it with a needle—thus furnishing undeniable proof that the portion of nerves, intermingled with its fibres, possesses the power of feeling and also of motion. Perception is the function performed at the extremity of the nerve by the peripheral brain. The change there produced is communicated, telegraphically if you please, to the central brain, by which a change is there effected that is productive of thought. The first change is modified by the physical or other properties peculiar to the cause; which modification is likewise communicated to the brain proper, in which a corresponding modification of change is produced; in consequence of which an idea of the character and nature of the cause is induced. When these operations have been performed a number of times, the individual acquires the power of reproducing, by a voluntary effort, the identical change in the cerebrum, which is followed by the same change as formerly in the peripheral brain; and thus, by an effort of the will, he can re-excite the idea of the agent which originally caused the aforesaid operations, &c., whether they be sensitive or motive."

In describing the premonitory symptoms or inceptive stage of paralysis, Dr. B. says, in regard to the sense of numbness, that, as a premonitory symptom, it *primarily* affects the peripheral brain, and is an indication that the ultimate nerve-fibres, in the part where it is experienced, are compressed. This compression he considers to take place in the following manner: The capillary vessels of the part having, from some cause or other, become less susceptible to the stimulus—that of distension only, perhaps—of the fluids they circulate, do not resist, but yield to the ingressive impulse of those fluids, until they become so distended as to compress the peripheral nervous termini, and cause the numbness or obtuseness of feeling referred to.

In the same manner he accounts for the production of the sense of drowsiness.

"The first link in the chain of causation is, as has been suggested, an unequal distribution of blood to the ultimate or distal nerve-fibres—peripheral brain—which compresses them; and the next, compression of the proximal extremities of the fibres of the same nerves. If any of the capillary vessels, meandering in the vesicular substance of the encephalon, give way, hemorrhage and apoplexy result."

Nearly all the positive as well as premonitory symptoms of apoplexy and palsy, whether of sensation or motion, have, Dr. B. declares, their seat in the nervous termini which constitute the peripheral brain. The premonitory coldness, numbness, drowsiness, prickling, and formication, are sent, he supposes, by way of admonition; the twitchings, cramps, and spasms, as solemn intimations that the real attack is near at hand.

"Those involuntary movements are, moreover, the suggestions of nature,"

he remarks, "as to what ought to be done; that the patient should, without delay, have recourse to exercise; that whenever any of these premonitions are present he should exert a limb with energy, instead of rubbing or having it rubbed, as is usually done. He should be advised of his danger, and assured that the course suggested will not only put a stop to the unpleasant feelings, but prevent the accession of the disease of which they are the precursors and heralds."

If Dr. B. is to be understood as asserting that the primary lesions which give rise to the positive as well as the premonitory symptoms in all cases of paralysis and apoplexy, are seated in the distal termination of the nerves, or what he denominates the peripheral brain, he is certainly not borne out by the facts developed by the pathological anatomy of the two diseases; nor is he sustained by any series of accurate observations if he means simply that the remote and exciting causes of paralysis and apoplexy act primarily upon the peripheral extremities of the nerves.

That in certain forms of paralysis, as that from the long-continued action of cold, and, perhaps, also, from the poison of lead and some other special causes, the peripheral termini of the nerves may be those primarily and mainly affected, is possibly true; but that, in the great majority of instances, paralysis of motion and of sensation is the result primarily and solely of lesions seated in the nervous centres, seems to us to be a fact so well established as to be beyond the possibility of a doubt; but, as Dr. B. has simply announced his theory in respect to the pathology of paralysis without adducing any evidence in its support, we shall defer any examination into its validity until such time as we are put in possession of the facts and arguments upon which it is based.

The general outlines of the treatment of paralysis growing out of the physiological and pathological views advocated by Dr. B. are thus defined—

"In paralysis, the muscles are, as suggested, seldom wholly destitute of contractility, but the patient has lost the will and the power of making them contract. The doctrine, then, which forms the basis of our theory and treatment too, is, that the paralytic must again learn to use his limbs just as he learned to use them in infancy; but as he cannot begin, as did the infant, to move them, and as nature, having once performed her task, refuses to renew her labours, we must, therefore, substitute our own hands, for hers, and move his limbs as she moved them at first, and like her invoke and direct his attention to the motions thus effected. We must, indeed, go further and endeavour to induce him to co-operate with and assist us in the work. While moving his limbs we should try to concentrate his attention upon the principal muscles by which the motions we are causing to be made are naturally executed, and urge him to make those muscles contract. A good way of doing this is to place his hand over the muscles in our own limb which we wish to have brought into play in his, and make them contract with force. This expedient may be likewise resorted to in his own unaffected members, * * * and the patient exhorted to attend to the operations of his own mind, as well as to the movements of his limb. He may likewise be requested to fix his attention on the affected limb, and consider what he desires and intends to do, and what he must actually do in order to make this limb imitate the movements of the other."

In a paralysis of some duration the muscles are not simply powerless, but some are too strongly contracted, while others, neither powerless nor contracted, are ready to act, not in obedience to the will, but in opposition to such muscles which can and do act somewhat in accordance with the patient's volition. Hence in every chronic case of paralysis the indications are to restore strength to the powerless muscles; to overcome abnormal contraction in others; and to obviate or counteract the irregular action of a third set, and, finally, to renovate the will, and reconnect it with the affected muscles.

We do not propose to enter into a consideration of the particular means—all of a physical—mechanical character, by which Dr. B. proposes to accomplish the foregoing indications. In cases of long-continued paralysis they are all unquestionably adapted to accomplish the ends for which they are proposed. This the cases detailed by Dr. B. would seem very clearly to prove. They cannot, with any propriety however, be received as remedies for paralysis, they can

only effect the removal of that condition of the muscles which is in most cases consequent upon the paralysis, and which remains after the immediate cause of the paralysis has been removed. So long as the cause by which the nervous communication between the affected muscles and the nervous centre is interrupted or suspended, continues, the remedial measures proposed by Dr. B. must necessarily be powerless. And in those cases in which the paralysis is the result of an entire disruption of the nervous connection of the muscles with the brain—the instrument of the will—it must be evident that so long as that disruption continues no means directed to the palsied limbs, no mental efforts on the part of the patient, no system of gymnastic education, will succeed in restoring the dominion of the will over the disabled muscles. If the nervous lesions are irreparable, the paralysis, do what we may, will be permanent.

It is very probable that, in certain cases, the inceptive phenomena of an attack of paralysis may be removed, and the attack prevented by well regulated muscular exercise. It appears to us, however, that such cases must be very limited in number, and, of course, of unfrequent occurrence. Dr. B. desires to speak of the efficacy of exercise for the removal of the premonitory symptoms of a paralytic seizure, "somewhat emphatically and positively," from having found it, during a long and tolerably extensive practice, uniformly successful when connected with other proper hygienic measures. D. F. C.

Art. XXVI.—*A Report upon some of the more Important Points connected with the Treatment of Syphilis.* By Holmes Coote, F. R. C. S., &c. London, 1857. Octavo, p. 141.

In this report, Mr. Coote gives his own experience upon the subject of venereal diseases; abstaining, as far as possible, from quoting the opinions of others. He endeavours specially to prove "that syphilitic sores owe their distinctive characters to the action of the poison on particular tissues; that there is but one poison, which may produce any of the varieties of secondary or constitutional symptoms; and that the occurrence of bubo, whether suppurating or not, has no influence upon the constitutional effects." These doctrines of Mr. Coote have the advantage of simplicity, and what is more, of greatly facilitating the treatment of syphilitic affections. Unfortunately, however, they are not legitimately deducible, at least in our opinion, from the phenomena he has himself witnessed and recorded, and their truth is, certainly, totally irreconcilable with what has been observed by others.

The contents of this publication are divided into eight chapters, which have these headings: Introduction, Blennorrhagia and Gonorrhœa, Primary Syphilis, On Inflammation affecting Syphilitic Sores, On Diseases Resembling Syphilis, Secondary Symptoms, Tertiary Syphilis, Infantile Syphilis.

In the introduction, after professing his inability to offer any suggestions respecting the exact mode of origin of the venereal disease, Mr. Coote declares it to be his belief that chancre is the effect of promiscuous sexual intercourse; that it is engendered by the mode of life to which prostitutes are exposed. This appears to him—and his mode of expression is rather strange—"to be the only explanation of the ubiquity of syphilis throughout all nations, in the enjoyment of the present customs of civilization." More than this, he believes that the filthier the habits of prostitutes, the more severe the disease they communicate (p. 7), which is somewhat at variance with the statement in the preface, "that there is but one poison which may produce any of the varieties of secondary or constitutional symptoms."

The grounds given by Mr. Coote as those upon which he founds this belief as to the origin of syphilis are by no means satisfactory. For instance, he states that when in Asiatic Turkey, he knew several of the medical officers of a large encampment of native cavalry, who informed him that primary vene-

real sores about the anus were frequent among the men. He says: "The question arises, whence came this poison? Was it introduced by some one who contracted the disease from a female? This is the most ready solution of the question; but then it is destitute of proof, and the difficulty of access to women in the east is proverbial." Most persons, contrary to Mr. Coote, must prefer what he calls, the most ready solution of the question. As to the difficulty of access to women in the east, some of the recent publications in regard to Bishop Gobat and the Jerusalem Bishopric, show that it is far from possible to consider it at all in the matter. One of the bishop's protégés, Hanna Hadout, lived by prostituting his mother and sisters, and by competent English medical men, his two first wives are declared to have died from the effect of excessive prostitution.

At the present day, syphilitic sores are no more generated by filthy habits, than maggots by putrid flesh. Syphilis is always transmitted, it is never spontaneously developed.

After concluding as to the origin of the syphilitic virus, Mr. Coote asks by what channels it is conveyed into the system; whether it is taken up by the absorbent vessels, or mixes immediately with the current of blood in the veins. In considering this question, on the occasion of a certain experiment performed upon the intestine of an animal, Mr. Coote states that the "thoracic duct, which receives the contents of the lacteals, does not in all probability convey into the venous system the whole amount of digested food, but only the more highly organized constituents. The saline and some fatty material is supposed to be removed by the veins." There is surely no occasion of thus assigning fanciful functions to certain organs, functions which any one acquainted at all with physiology knows to be erroneous, in order to conclude that the absorption of syphilitic virus is made by the lymphatics. Experiment shows that it is carried by them as far as the first ganglions which correspond directly with the chancres; and never any further, as *primitive* pus. This should be sufficient, and fanciful notions on the subject, as arguments, are not required.

In Chapter II., upon Blennorrhagia and Gonorrhœa, there is nothing remarkable, except the opinion that gonorrhœa is a constitutional affection. This opinion is founded mainly upon a case which came under Mr. Coote's notice. A prisoner was admitted into the City Bridewell suffering from gonorrhœa, which he had contracted a fortnight before his imprisonment. Under the use of the copaiba mixture and a weak solution of sulphate of zinc, the discharge disappeared in about three weeks, when he went to full work upon the treadmill. A superficial non-indurated venereal sore soon appeared upon the integuments of the under surface of the penis. It healed under the usual treatment. Now it is obvious, Mr. Coote says, that the man could not have exposed himself to contagion for at least three weeks—probably not for five—and whence came the poison which had produced the ulceration? He declares that he "is inclined to regard it as an illustration of Hunter's doctrine—that two constitutional diseases do not readily go on together" (p. 32). It is really extraordinary, notwithstanding the many instances every day witnessed of strange opinions and queer deductions, to see it argued thus that gonorrhœa is a constitutional disease.

The rest of the work, as is seen by the list of contents already given, treats of primary and constitutional syphilis. We learn from its study that Mr. Coote believes that secondary symptoms can be communicated from one person to another in other ways than by a primary sore, or by fecundation, that he believes in buboes *d'emblée*, that he knows of no relation between the occurrence of bubo and the frequency of secondary syphilis, and that indurated and non-indurated sores are all equally liable to be followed by constitutional effects. Now all these things have been shown to be erroneous, by what, to our minds, is irrefragable testimony; and we see nothing whatever in Mr. Coote's statements to shake our own opinions.

There are what might be styled opinions of the will; which, in spite of everything, a man holds because it is his wish to do so. Of them, one can truly say, "quod mavult credere homo, id credit." In such cases it is useless to argue. The old lines are very true,

A man convinced against his will,
Is of the same opinion still.

In his *advertisement* Mr. Coote professes to be acquainted with the opinions expressed by other writers upon syphilis, and to have perused their works with interest. Under such circumstances we must express some astonishment at his opinions, but we believe that there is no use in again discussing them.

W. F. A.

Art. XXVII.—*Journal de la Physiologie de l'Homme et des Animaux*. Publié sous la direction du docteur E. Brown-Séquard. Tome premier, Avril, 1858. Paris: J. B. Baillière et Fils; Londres et New York: H. Baillière.

This, the second number of the *Journal de la Physiologie*, fully sustains the very favourable opinions which greeted the appearance of the first. Dr. Séquard, its able and industrious editor, is evidently determined to make his Journal the vehicle of much that is both new and valuable in physiological science, and thus render it an indispensable addition to the library of every scientific practitioner of medicine.

Until within a very few years, it has been the custom to regard pure physiology as a science more speculative and theoretical than substantial and practical; fuller of crude and fanciful notions than of important and well-established facts; and, consequently, as of little or no practical use to the healing art. Those, however, who have most narrowly inspected the toilsome course of modern physiology, from the time of Haller and Harvey, its justly reputed fathers and founders, down to the present day, know that it has been steadily progressive, constantly accumulating numerous and highly valuable facts, the true nature and relations of which have, in many instances, been thoroughly determined, and a positive step thus made towards the establishment of the fundamental principles or laws of the science. As a necessary result of this progression, physiology is, at the present moment, specializing itself in another direction. It is assuming, in fact, the character of an applied science, and practical physicians of all countries, with a daily increasing confidence in its capabilities, are hopefully looking to it to illuminate their empirical and uncertain course, and dissipate the doubts which hover, fog-like, about their path. The importance, indeed, of applying physiological facts to the elucidation of the complex problems of pathology is slowly but strongly attracting the earnest and respectful attention of the profession. This we regard as a healthy sign. It indicates that the *ars medendi*, after wearily marching and counter-marching for 2000 years, has, at length, discovered the only path which is capable of conducting it to its appropriate place in the circle of the exact sciences. Indeed, we firmly believe, and this belief we have elsewhere maintained, that theoretical and practical medicine can never become a rational, philosophical system, unless it be based upon a strictly scientific physiology, whose numerous and complicated phenomena have been carefully generalized in accordance with the inductive method, and reduced to a few simple laws or expressions. The increasing interest in physiology, daily manifested by the so-called practical men of the profession, is stimulating to renewed exertions those patient and laborious investigators who have so nobly devoted their lives and brilliant talents to the advancement of their favourite science. The foundation, in 1849, of the Société de Biologie of Paris, the existence of similar institutions in different parts of Europe, especially in Germany, the creation of a Biological Department in the Academy of Natural Sciences of Philadelphia, and the establishment of the Journal before us, devoted entirely to the interests of physiology, are some of the proofs of the growing estimation of the importance of this science.

The present number of the Journal contains thirteen original memoirs, contributed by MM. Brown-Séquard, Bernard, Robin, Blondlot, and others; the

usual analysis of new books; translations from the English and German; extracts from the journals, and a brief *appréciation* of the progress of physiology.

The titles of the memoirs are as follows:—

1. Researches upon the Causes of Death occurring after the Extirpation of that part of the Medulla Oblongata which has been called the Vital Point. By Dr. E. Brown-Séquard.

2. Upon the Variations in Colour of the Venous Blood of the Glandular Organs, according to their condition of functional activity or repose. By Prof. Cl. Bernard.

3. Note upon the Influence exercised, in certain Cases, by the lateral half of the Spinal Marrow, upon the corresponding half of the Encephalon and Face. By Dr. E. Brown-Séquard.

4. The Origin of Sugar in the Animal Economy. By A. Sanson.

5. Researches upon the Action of different parts of the Solar Spectrum upon Vegetables. By Dr. C. Guillemin.

6. Limits to the Possibility of the Spontaneous Return of Cadaveric Rigidity, after it has been destroyed by Elongation of the Muscles. By Dr. E. Brown-Séquard.

7. Note upon some Points in the Anatomy and Physiology of the Red Globules of the Blood. By Dr. Ch. Robin.

8. Upon some Facts which appear to show that several kilogrammes of Fibrin are formed and transformed, every day, in the Body of Man; and upon the Seat of this Production and Transformation. By Dr. E. Brown-Séquard.

9. New Researches upon Digestion. The Acid Principle of the Gastric Juice. By M. Blondlot.

10. Researches upon the Erectile Organs of the Female, and the Tubo-Ovarian Muscular Apparatus, with their Relations to Ovulation and Menstruation. By Dr. Ch. Rouget. (With three plates.)

11. Upon Tactile Sensibility, and a Method of Measuring it, in Anæsthesia and Hyperæsthesia. By Dr. E. Brown-Séquard. (With a wood-cut.)

12. Note relative to the Existence of Sexual Generation among the Infusoria. By Dr. E. G. Balbiani. (With a plate.)

13. Experimental Researches upon the Physiological Properties and Uses of Red and Black Blood, and their Principal Gaseous Elements—Oxygen and Carbonic Acid. By Dr. E. Brown-Séquard.

All the above memoirs are well worthy of careful perusal. Our limits, however, permit but a very brief reference to their contents.

It is well known to physiologists that some years ago M. Flourens announced, as one of his most important discoveries, that the removal or destruction of the pen-like point of the very small triangular or V-shaped piece of gray matter bounded by the posterior pyramids and restiform bodies, and known to anatomists as the calamus scriptorius, is followed immediately and invariably by the cessation of respiration and vital activity. This spot, scarcely a line in extent, he calls the vital point or knot (*le point* ou *la nœud vital*) of the nervous system; and he regards it as the nervous centre of respiration—the seat, in fact, of the vital principle. In the highly interesting paper which heads the above list of memoirs, Dr. Séquard attempts to show that death is not always the immediate consequence of the destruction or removal of the *point vital*. On the contrary, he assures us that, after the operation, respiration, circulation, intelligence, co-ordination of voluntary movements, perception of sensations, &c., are maintained, very often, for a considerable length of time, there being sufficient life left, under these circumstances, for each part or organ to perform its appropriate function. Death resulting from the experiment he attributes neither to the sudden nor the gradual extinction of the vital force, but to the cessation of the heart's action, the arrestation of the respiratory movements, pulmonary emphysema, and the entrance of air into the veins during the performance of the experiment. Dr. S. informs us that the sudden arrestation of the cardiac movements, consequent upon the ablation of the *vital point*, may also be produced by sending a galvanic current through the medulla oblongata and the par vagum. In both these cases, all contraction ceases, and the heart remains

passive, being dilated by the influx of blood only. Sudden destruction of the medulla oblongata in the batrachia renders the heart inactive for some time. The same effect may be produced by a reflex action, originating in the great sympathetic, and passing successively along the medulla spinalis, the medulla oblongata, and the pneumogastric nerve. Now, in all these cases, Dr. S. thinks that the stoppage of the heart is essentially due to a direct or indirect irritation of the vagus. That it is not attributable, as Flourens thought, to the mere absence of the *nœud vital*, appears to be shown by the fact that, in the anencephalous fœtus, deprived of the medulla oblongata, the heart may beat for many months; and in the batrachia, it will beat with energy and regularity for more than eight months after the removal of the nervous centre which includes the vital point. On the other hand, that it is the irritation of the parts in proximity to this point which produces the cardiac phenomena in question, appears from the following facts, viz: 1. That the simple pricking of these parts suffices sometimes to diminish suddenly the force and rapidity of the heart's movements; and 2. That, in a mammifer in which the par vagum is divided, the movements of the heart are never suddenly arrested nor enfeebled by the destruction or removal of the vital point.

In 1853, MM. Bernard, Budge, and Séquard communicated to the *Société de Biologie*, the important fact that the application of galvanism to the par vagum arrested the movements of respiration. Dr. Séquard has also frequently witnessed a suspension of these movements produced by simply pricking the medulla oblongata near the vital point. Hence he concludes that the obstructed respiration consequent upon the extirpation of the vital point is due, not to the absence of this small piece of gray neurine, but to the irritation of the medulla produced by its removal.

A third cause of death after this operation is the entrance of air into the veins of the neck, which are frequently opened by the experimenter in laying bare the medulla oblongata. In those animals that die immediately after the operation, the cause of death appears to be the pressure of coagulated blood upon the medulla and the pons Varolii. The fatal termination in nearly all these cases is hastened by pulmonary emphysema and the accumulation of large quantities of frothy mucus in the trachea and bronchial tubes.

It is highly interesting to observe in this connection, and the observation derives importance from its practical bearing, that in cases of sudden death, resulting from powerful mental emotion, a violent blow on the abdomen, or the rapid introduction of very cold water into the stomach, the accompanying phenomena are often precisely like those which supervene upon the ablation of the *nœud vital* in animals. In the latter case, the cause of death originates in the medulla oblongata; in the former, it is propagated to this part of the nervous system from the periphery or the brain itself.

From his experiments and observations upon this interesting subject Dr. Séquard arrives at the following conclusions:—

1. That death is not always the immediate result of the extirpation of the *nœud vital*.

2. When death takes place suddenly, after such extirpation, it is partly due to the sudden arrestation of the cardiac movements—produced by the irritation of the medulla oblongata.

3. The irritation of the parts contiguous to the vital point like the removal of the latter, arrests or enfeebles the action of the heart.

4. After section of the par vagum, extirpation of the vital point never occasions the sudden cessation of the heart's motion.

5. The cessation of the respiratory movements which sometimes follows the extirpation of the vital point, results not from the absence of this point, but from an irritation of the medulla oblongata.

6. Irritating the nervous tissue surrounding the vital point sometimes retards respiration, although this point is not itself injured.

7. Respiration and circulation may continue strongly and regularly for very many days after the ablation of the vital point. This point is, therefore, neither the original seat of a so-called vital force, nor the primary motorial centre of the mechanics of respiration.

8. Voluntary movements and the sensorial functions often persist after the extirpation of the *nœud vital.*

9. The vital point appears not to be essential to life.

The paper of Cl. Bernard, on the variations in the colour of venous blood, was read before the Academy of Sciences, of Paris, in January last. A translation of it has already been given to our readers in the preceding number of this Journal (p. 497).

In the third article, Dr. Séquard attempts to show that division of the lateral half of the spinal marrow influences considerably the encephalon and certain parts of the eye and skin of the face upon the corresponding side, in a special and as yet unexplained manner.

M. Sanson, in the fourth memoir, treats us to a summary of the present state of our knowledge concerning the existence and formation of sugar in the animal economy. He discusses critically the conflicting views of Bernard and Figuier, and details a number of experiments which lead him to conclusions, as to the origin of glucose, directly opposed to those of Bernard.

In the next article, M. Guillemin records the interesting results of his attempts to determine experimentally, 1, the influence of different parts of the solar spectrum upon the formation of chlorophylle; and 2, the action of the calorific, luminous and chemical rays upon the direction of the stems of plants.

M. Robin's paper, upon the "Blood-corpuscles," and those of Brown-Séquard on the production and transformation of fibrin in the human body, and the physiological properties and uses of red and black blood, are especially worthy of attention.

Blondlot still maintains that biphosphate of lime is the acid principle of the gastric juice. His paper is virtually a critical examination of the method of procedure adopted, and the conclusions arrived at by Prof. F. G. Smith in his able article entitled "Experiments upon Digestion," published originally in this city, and afterwards reprinted in the first number of Séquard's Journal.

The excellent communications of Rouget on the erectile organs, and of Balbiani on the reproduction of infusoria, are illustrated with well executed lithographic plates.

In the bibliographical section of the Journal we observe with pleasure a brief but important notice of Dr. Dowler's Researches on Post-mortem Contractility, in which Dr. Séquard takes occasion to acknowledge the priority claimed by Dr. Dowler for the announcement of certain facts connected with post-mortem rigidity of the muscles. Although the physiological investigations of Dr. Dowler have long been familiar to the physicians of the United States, they are, as yet, almost wholly unknown to those of Europe. With equal pleasure, we find, under the head of "Translations," the paper of Dr. Isaacs, of New York, on the "Function of the Corpuscles of Malpighi," while in the *appréciation* of the progress of physiology, the scientific labours of no less than five American physicians are noticed. It will thus be seen that the *Journal de la Physiologie* is already, at this early stage of its existence, becoming an important channel for the introduction of American physiology into Europe. The long sojourn of its able editor in the United States, his intimate acquaintance with many members of the profession in this country, and his familiarity with the English language are qualifications well calculated to render his Journal the best European exponent of the labours of American physiologists.

J. A. M.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *New Structure in the Spermatic Cord.*—M. Giraldes describes certain tubular and vesicular bodies which he has discovered in the spermatic cord, and which he considers to be the remains of the Wolffian body of the embryo.

The structures in question, which he proposes to designate collectively by the term "Corps Innominé," form a small group, situated behind the tunica vaginalis, between that membrane and the spermatic vessels, and extending usually from the head of the epididymis as high as the point where the membrane is reflected forwards from the cord; sometimes, however, reaching much higher up; or, on the other hand, being more concentrated in the neighbourhood of the epididymis.

The "Corps Innominé" is found in the new-born infant, and in a more or less modified condition at all later periods of life; it has also been met with in the lower animals. To facilitate its detection and examination, the author has found it advantageous previously to render the surrounding tissues transparent, by macerating the spermatic cord in an acid solution, for which purpose he recommends the use of tartaric or citric acid in the infant, and of dilute nitric acid in the adult.

After this preparation minute whitish specks make their appearance in the situation above mentioned, which, when examined with the microscope, are found to be produced by small vesicles and convoluted tubes of varied and curious shape, surrounded by a plexus of small bloodvessels, which are distributed on their parietes. The tubes are short, tortuous, and for the most part beset with very unequal-sized and irregular varicose dilatations, and sometimes with short branches, ending in rounded swollen extremities. The vesicles are round or oval, like short closed segments of a varicose tube, and generally with irregularly protruding outline. The walls of both vesicles and tubes are formed of a fibrous connective tissue, and lined with epithelium; and they inclose a consistent but clear fluid, holding in suspension epithelium particles and transparent granules. This description applies to the condition of the structures in question, as found in the infant, and up to the age of from six to ten years; after this they begin to be atrophied, so that, although still present in the adult, they are usually less marked; but, on the other hand, they then sometimes contain a more consistent liquid, and are occasionally dilated, so as to constitute certain forms of cysts known to occur in the spermatic cord.

As already stated, the author regards the "Corps Innominé" as formed by the atrophied remains of the Wolffian body, and therefore comparable to the so-called "organ of Rosenmüller," which is found in the broad ligament of the uterus, and represents the vestiges of the Wolffian body in the female; and as

certain vesicular productions in the broad ligament may take their rise from these remnants, so the author, as before remarked, has satisfied himself that the origin of some of the cysts of the spermatic cord may be traced to dilatation of the tubular elements of the "Corps Innominé" in the male.

The paper is illustrated by drawings, representing the objects in their natural size and situation, and also as seen under the microscope.—*Proceedings of Royal Society.*

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2. *Normal Existence of Urea in Healthy Perspiration.*—Funcke confirms the normal existence of urea in considerable proportion in healthy cutaneous transpiration, a fact denied by Schottin.—*Moleschatt's Beiträge*, 1858.

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3. *Accommodation of the Eye.*—Graefe describes a case of importance for the doctrine of accommodation—namely, a complete paralysis of all six muscles of the eyeball without diminution of the faculty of accommodation. In another case Gräefe observed a spasmodic condition of the apparatus of accommodation, finding it, after an injury to the eye, constantly in the state suited for near objects, with inability to see distinctly distant objects.—*Brit. and For. Med.-Chir. Rev.*, July, 1858, from *Gräefe's Archiv.*, vol. ii.

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4. *Physiology of the Nervous System.*—Dr. Alex. Henry, in his abstract of the lectures recently delivered by Dr. Brown-Sequard on the physiology of the nervous system, gives the following general recapitulation of the main object which the author desired to prove:—

1. The gray matter of the cord is the principal channel by which sensitive impressions are conveyed to the brain.

2. The anterior columns have a share in the transmission of sensitive impressions.

3. Injury of one lateral half of the cerebro-spinal axis produces certain well-marked features, according to the following table:—

a. Injury of the brain produces—

On same side.	*On opposite side.*
Anæsthesia.	Normal sensation.
Paralysis.	Normal motor power.
Increased temperature.	Normal heat.

b. Injury at any point from the tubercula quadrigemina to the medulla oblongata above the decussation in the pyramids produces—

On same side.	*On opposite side.*
Anæsthesia.	Hyperæsthesia.
Paralysis.	No paralysis.
Diminished temperature.	Increased temperature.

c. Injury of the medulla oblongata at the crossing in the pyramids produces paralysis of motion on both sides; otherwise the symptoms are the same as in *b*, when the pons Varolii is injured.

d. Injury of the spinal cord on one side produces—

On same side.	*On opposite side.*
Anæsthesia.	Hyperæsthesia.
No paralysis.	Paralysis.
Diminished temperature.	Increased temperature.

Anæsthesia and diminished temperature almost always accompany each other; but an exception is observed in Class *a*—injury of the brain proper. This may possibly be explained by the fact that the nerves with which the bloodvessels are supplied decussate in the cerebro-spinal axis at a higher point than the ordinary sensitive nerves—apparently above the corpora quadrigemina. Hence, if the brain proper be divided on one side, dilatation of the bloodvessels on the opposite side will be produced. The occurrence of increased temperature on the paralyzed side in injuries of the brain has frequently escaped notice;

although Cheyne, Portal, Morgagni, and others, observed it. Though frequent, it can scarcely be said, as far as has been ascertained, to be a constant phenomenon.—*British Med. Journal*, July 10, 1858.

5. *Investigations respecting the Development of Teeth.*—At a meeting of the French Academy of Sciences, M. GUILLOT read a paper on the above subject. I have been led, says the author, to explain the origin of the teeth in a novel manner, from examining very early embryos of the human and sheep kind, of less than two months, as also from observations made upon fish. I have discovered an organic substance, in the centre of which the first traces of the teeth may be observed; this substance, being intended for genesis and protection, disappears when this twofold function is performed. By the transformation of the molecules, by which it is composed, it successively produces the ivory, enamel, and cementum. The appearance of this substance varies with the age of the subject; it is at first composed of irregular nucleated cells; at that period, the ivory and the enamel begin to be formed, though not yet solid; it afterwards becomes fibrous, by the stretching of the cells, when it brings forth the dental sac and the cementum. The first rudiments of the teeth resemble diminutive spheres, made up of myriads of cells. Those which are most easily discovered belong to the deciduous teeth; towards the third or fourth month, the gums of the permanent teeth are easily perceived in the human subject. In this primitive state, no sack or envelop confines these spherical bodies. Three divisions or partings take place in the interior of these spheroids before they become solidified. One is central, and eventually gives rise to the ivory; the second produces the enamel; and the most external division, the one where the dental sac has been formed, produces the cementum. These changes are the same for the deciduous and permanent teeth. The latter could never emerge from the capsules, which form a close receptacle for them, if a portion of the walls forming these capsules did not disappear, to allow the crown to press forward. This disappearance, which depends on a kind of absorption which the bony cells undergo, can also be observed in the osseous capsules which fix the deciduous teeth. But although, in several places, the jaws decrease in size, and lose the substance of which they are composed, these same jaws increase on other places, stretch out and make the room necessary for the growing teeth. This double molecular movement goes on until the face has attained its greatest development.—*Lancet*, Aug. 21.

6. *Absence of the Left Kidney.*—Prof. FÖRSTER relates (*Virchow's Archiv.*, March, 1858) the following example of this. The malformation was found in the body of a boy stillborn at the seventh or eighth month, brought to me from the Lying-in Hospital on the 18th of June, 1857, which exhibited no other anatomical abnormity. The left kidney, with the ureter belonging to it, was entirely absent; the place where the kidney should have lain was occupied exclusively by the intestine, the left supra-renal capsule was in its proper position, and exhibited no change, except that it was larger than the right. The right kidney occupied its normal situation, and appeared rather larger than usual, the calyx and pelvis being somewhat enlarged, in other respects its structure was exactly that of a single kidney. Nor did any trace of the fusion of two kidneys exist; the right ureter was greatly enlarged, ran in a winding course behind the lower extremity of the colon, which was filled with meconium, and opened on the left side into the bladder, exactly in the place where, in the normal condition, the left ureter usually comes down; the caliber of the ureter at this point was very narrow, and would admit of the introduction of only very fine probes; by this circumstance, but still more by the pressure which the colon must have exercised on the ureter, the dilatation of the latter was accounted for. The urinary bladder was considerably distended with urine, which, on pressing the bladder, very readily flowed from the normal urethra; where the right ureter should normally have entered the bladder, there was no trace of it. The testicles still lay within the abdominal cavity, but were very near the entrance into the inguinal canal.

Absence of one kidney, and of the ureter belonging to it, is a malformation

frequently observed, but the remarkable course of the right ureter to the left side, and its opening into the left half of the bladder, is one of the greatest rarities. To explain this latter malformation, we must assume that the portion of the ureter, which lay on the left side, originally belonged to the left ureter, so that, consequently, the upper half of the left, and the lower half of the right ureter were deficient, while the halves which were formed united to constitute one ureter, half belonging to each side. If this explanation be correct, the malformation must have taken place at a very early period of the development of the ureters, at a time in which both ureters consisted only of rows of cells, lying parallel to one another; for, in the period immediately following, the ureters are mutually too remote to admit of the hypothetic fusion taking place. Possibly there is a time at which the first foundation of both ureters consists of a single row of cells, which subsequently divides by a separation of the cells in a certain direction into two rows; in that case the occurrence can be explained by supposing that after this separation the development of the left superior and of the right inferior row of cells was arrested, and so but a single series remained.—*Dublin Journ. Med. Sci.*, Aug. 1858.

MATERIA MEDICA AND PHARMACY.

7. *Influence of Liquor Potassæ and other fixed Caustic Alkalies upon the Therapeutic Properties of Henbane, Belladonna, and Stramonium.*—In our No. for April last (p. 501), will be found some interesting observations on this subject, communicated to the Royal Medical and Chirurgical Society by Dr. A. B. Garrod.

Dr. G. has since (June 22, 1858), read before the same society a second paper, the object of which was:—

1. To prove that the active principles of the plants under consideration are absolutely destroyed by the influence of the caustic alkalies.
2. To show the ratio which must exist between the different preparations of the plants and the alkalies for the neutralization to be perfect.
3. To ascertain the time demanded for the decomposition to be complete.
4. To illustrate clinically the influence of the alkali in preventing the occurrence of symptoms, and removing such when large medicinal doses of these solanaceous drugs are administered.

Dr. Garrod, before proceeding to discuss these various heads, brought under notice a few points relating to the nature of liquor potassæ, and the properties of some of the officinal preparations of henbane, etc., showing that the former, although strongly caustic, still possessed but little neutralizing power, containing so small an amount of potash, not more than 6.7 per cent.; and that most of the preparations of henbane, belladonna, and stramonium, as the tinctures and extracts, were strongly acid in reaction, and hence, before the alkali could act upon the active principles contained in them, it must first neutralize this acidity, next separate the alkaloids from the acids with which they naturally are combined in the plants; that, therefore, much more was required (measured by the physiological or therapeutic strength of the drugs) to neutralize the galenical preparations than their alkaloids, or the active principles themselves. To prove that the active principles were absolutely destroyed by the alkali, he (Dr. Garrod) performed several experiments in the following manner: A solution of atropine was made by dissolving it in water, with the aid of a little spirit, dividing the solution into two parts, adding to one some carbonate of potash, to the other a sufficiency of liquor potassæ, and permitting both to remain for some hours. Chloroform was afterwards well shaken with both solutions, and allowed to subside, the supernatant fluid being poured off, and the chloroform washed with a little distilled water. Each portion was evaporated spontaneously in glass dishes. From the solution to which carbonate of potash had been added, a gummy matter was obtained (soon, however, becoming crys-

talline), a solution of which dilated the pupil intensely; and when acidulated with hydrochloric acid, and chloride of gold dropped in, gave rise to the beautiful plumose crystals of the double chloride of gold and atropine. From the second solution, that to which liquor potassæ had been added, a strong-smelling substance was left, on the evaporation of the chloroform, having no power of dilating the pupil, and giving rise to no crystallization with the gold salt. These experiments demonstrated beyond doubt the absolute destructive agency of the caustic alkali upon the active principles. It was also shown that most other alkaloids, as morphia, quinine, cinchonine, etc., were not so destroyed. To show the ratio which must exist between the different preparations of the plants and the fixed alkali, in order that neutralization may be perfect, Dr. Garrod gave the results of more than sixty experiments and observations in a tabular form, from which it appeared that when atropine is acted upon by liquor potassæ, the destructive influence of the latter is so great that less than twenty minims are required to neutralize one grain of the former, and that probably pure potash will destroy its own weight of atropine. That when belladonna preparations are employed, the power of the potash becomes weakened, from the causes above alluded to, namely, the natural acidity of the drugs, and the necessity of first displacing the alkaloid from the acid with which it is combined; still, however, it was shown by the table that fifteen minims of liquor potassæ will destroy a fluidrachm of the tincture, and that twenty-five minims are sufficient to produce the same change in five grains of the extract; at once demonstrating that quantities very greatly beyond the medicinal doses of these drugs—indeed even poisonous amounts—are rendered quite inert by very moderate addition of the alkaline solution. The same was found to hold good in the case of daturine and the preparations of stramonium. Ten minims of liquor potassæ will neutralize a drachm of tincture of henbane, and thirty minims destroy nine grains of extract of henbane, although when ten grains are employed, dilatation will often ensue from a small portion of the extract, less than one grain being left free; and it should be observed that a very minute proportion of these preparations is amply sufficient to induce the effect. Of course, these extracts and tinctures are liable to variation in strength, acidity, etc., circumstances which must necessarily produce an alteration in the requisite amounts of liquor potassæ required for complete neutralization. With even the best extract, however, procured from one of the first druggists in town, it was found that nine grains were destroyed by the above-named quantity of potash. Nine grains of good extract of henbane and three fluidrachms of good tincture of the same may be considered as doses of the drugs, which few practitioners would prescribe; yet these are destroyed by thirty minims of liquor potassæ, proving, beyond all doubt, that in the porportions prescribed in actual practice a total neutralization of effect ensues. To ascertain the required time, Dr. Garrod made experiments with solutions of atropine, and commenced the observation shortly after the addition of the potash. In an hour and a half the effect on the pupil was much diminished, and in two hours and a half ceased altogether. The influence of the alkali in preventing the occurrence of symptoms, and removing the same when large medicinal doses of these solanaceous drugs are administered, was clinically illustrated by the narration of several cases, in which, after very decided effects had been induced by henbane or belladonna preparations, the addition of a very small quantity of liquor potassæ to the draught (the patient continuing the other drugs) quickly caused the cessation of the symptoms; and again, other instances where the withdrawal of the liquor potassæ from a combination was followed by the occurrence of powerful symptoms. From these observations and experiments, Dr. Garrod concluded that the liquor potassæ possessed the peculiar power of destroying the active principles of henbane, belladonna, and stramonium, even when in very dilute solutions, and that the combinations frequently prescribed are utterly incapable, both in a chemical and therapeutical point of view.—*Med. Times and Gaz.*, July 10, 1858.

8. *Action of Solutions of Chlorate of Soda and Chlorate of Potash on False Membranes extracted from the Air-passages.*—In order to show the solvent action

of the two chlorates, and the more rapid action of the soda, M. Barthez exhibited to the Society tubes containing these solutions, and false membrane introduced into them. These false membranes had been extracted the day before from the trachea and bronchi of a child who had died of croup. In one tube the membrane was placed in contact with pure water. In twenty-four hours no appreciable change had taken place in the appearance of the fibrinous tissue. Two other tubes contained the membrane in contact, for twenty-four hours, with concentrated solutions of the two salts. The dissolution was the same in the two tubes: all membranaceous appearance had disappeared, and the tissue had become diffluent and semi-transparent.

Two other tubes contained false membranes which had been for eighteen hours in the same solutions. The solvent action had been the same, but at the end of twelve or fourteen hours the membranaceous form existed in the tube containing the solution of chlorate of potass, while this form had disappeared in the other tube. And lastly, after the false membranes had remained for eight hours in these solutions, the tissue was not altered in the solution of chlorate of potass, whilst that in the solution of chlorate of soda was completely diffluent; and this change was complete after it had remained three and a half hours in contact with the salt. M. Barthez does not insist on this as the length of time sufficient to produce solution of false membrane; the time must vary according to the thickness, density, and composition of the substance secreted, and according to other unknown circumstances.

Effect produced by Chlorate of Soda on False Membranes still retained in the Trachea.—In dropping a solution of chlorate of soda into the trachea, M. Barthez states: "My only object is, to obtain a solution of the false membranes, in the same way in which that occurs in the tubes as just exhibited. I expect only to soften the adherent surface sufficiently to allow of the membrane becoming more easily detached by the fits of coughing, and so being expelled. The following facts make me think that this object may be sometimes obtained.

"In one patient, a portion of false membrane, which was adherent, and causing suffocation, became detached, and was thrown up in two hours after the drops had been commenced, they being used every quarter of an hour. This false membrane lined the trachea, and went down as far as the bifurcation of the bronchi.

"In another child, drops of cold water, used in the same manner for six hours, produced no result; while, after a warm solution of chlorate of soda had been used for one hour, fragments of false membrane became detached, and were thrown up, and continued to be expectorated abundantly for several hours."

Let us see now the condition in which the false membrane has been found in some children who died, notwithstanding the use of the chlorate of soda drops. In a little girl, 21 months old, the croup progressed so rapidly, that thirty-six hours after its invasion, impending asphyxia rendered the operation necessary. No false membrane was thrown up after the operation. The chlorate of soda was dropped in almost every hour, and at the end of about twenty-four hours a small fragment of false membrane escaped from the canula; however, no improvement followed. On the next day the dropping in of the fluid caused very slight cough, and the discharge of an aqueous fluid, slightly opaque, like when purulent mucus is shaken in water; moreover the sharp râles indicate an extensive capillary bronchitis. Death supervened the fourth day after the operation. The trachea was lined by a false membrane, slightly adherent and tenacious, and softened down so that it was almost impossible to detach it in strips. This membrane did not cover the entire of the mucous surface, but formed, as it were, little islands, between which the exposed mucous membrane was visible, giving a mottled appearance to the internal surface of the trachea. In this case it would seem that the false membrane had been softened on the internal surface, and worn away and detached in several places.

In a boy three and a half years old, who was admitted into hospital on the fourth day after the commencement of the croup, M. Barthez first causticized

the larynx, by means of Dr. Loiseau's tube. This was done three times, at intervals of thirty hours, but without any marked effect; at length asphyxia became imminent, and tracheotomy was performed, and was followed by a rejection of some false membrane. A solution of chlorate of soda was dropped in every hour or half hour; each drop produced a slight fit of coughing, followed by expectoration of mucus, without any false membrane. No improvement took place, and the child died twenty-four hours after the operation.

At the autopsy we found a false membrane extending continuously from the top of the larynx to the third ramification of the bronchi. In the larynx this yellow false membrane filled the ventricles, and closed up the windpipe; it was adherent to it, and sufficiently consistent to be detached in one piece. In the trachea it formed a complete tube; but from the inferior part of the larynx to the commencement of the bronchi it was softened, almost semi-fluid, and could only be detached in small fragments. In the bronchi it resumed its consistence, and closed up a great portion of the air-tubes. In this child, then, the chlorate of soda appears to have softened the false membrane superficially, but there was not sufficient time for it to be detached and thrown up.

In a child five years of age, admitted on the third day after the attack, ordinary treatment having failed, the operation was performed on the fourth day. After the lapse of about an hour, false membranes were thrown up spontaneously. Two hours later, their expulsion having ceased, we began to use the chlorate of soda drops every half hour. A very large quantity of false membrane was thrown up for about four hours; then all expectoration ceased, and the child died asphyxiated ten hours after the operation. The larynx was found partly obliterated by false membranes of a medium size, and partly detached. On opening the trachea, this tube did not contain any fibrinous product, but at its inferior portion, and at the commencement of the bronchi, there existed a collection of false membrane, placed across the bifurcation of the bronchi, falling down into each bronchial tube, and prolonged uninterruptedly as far as their third ramification. This mass was not anywhere adherent; it seemed to be altogether detached from the parts above it, and to be retained below only by its continuity with that portion which filled the bronchial tubes.

These five cases are sufficient to show that the action of chlorate of soda on false membranes in the trachea is, if not certain, at all events very probable. They show also its different modes of action. In appreciating its value, we are to take into account, not only the solvent power of this solution, but also the effects of the application of water alone, and also of the fits of coughing which the introduction of fluid will produce; and the assistance thus rendered to the detachment of the false membranes. Notwithstanding this complicated mode of action, M. Barthez thinks he has good grounds for referring the good results, partly or entirely, to the solvent action of the salt.

Indications and Contra-indications for the use of the Chlorate of Soda Solution.—1. The first indication arises from the existence of false membrane in the trachea, or in the trachea and bronchi. If the fibrinous product be seated in the throat or larynx exclusively, it would not be necessary to use the drops. It certainly is not always easy to be satisfied as to the existence of this false membrane in the larynx; but supposing any doubt to exist on the subject, there would no harm arise from their use. In that case they act, not so much by the specific power of the salt as by the warm water, which dilutes the adherent mucus, provokes cough, and favours expectoration.

2. Whatever be the situation of the false membrane, if the child presents symptoms of diphtheritic poisoning, there is no motive for using the drops. In that case it is not the false membrane which kills. We are not warranted even in performing tracheotomy; much more is the use of the chlorate of soda solution perfectly inefficacious.

3. If the expectoration is easy and abundant—if the false membranes are easily detached, and thrown off in proportion as they are formed, there is no occasion for using the drops.

4. The only indication for their use, then, is in those cases where, after operation, the false membrane in the trachea or bronchi is thrown off with

difficulty, and threatens to produce asphyxia. The symptoms which indicate such condition are not absolutely certain. Those which have hitherto guided me are the dry and stridulant noise, or sort of dry *claquement*, produced by the passage of air through the canula and the trachea; the obscurity of the respiratory murmur; the absence or scarcity of mucous or pseudo-membranous expectoration; the persistence of, or the not sufficient rallying from, the impending asphyxia which precedes the operation.

The indications being well established, will the use of this solution, as described, of necessity bring about a cure? That does not at all follow, as, indeed, is proved by the cases above detailed. The chlorate of soda may assist the child in getting rid of the mechanical impediment to the entrance of air into the lungs; it does nothing more. After tracheotomy, life depends on too many different circumstances for us to hope to save it by one single measure which is only calculated to serve a special purpose, as is the chlorate of soda. It is, then, only under the circumstances which I have pointed out, that I consider the use of the solution of chlorate of soda can be of any service after tracheotomy, or that I advise surgeons to make trial of it.—*Dublin Hosp. Gaz.*, July 1, from *Gaz. Méd. de Paris.*

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9. *Value of Iodide of Iron.*—The iodide of iron is comparatively a new preparation, as it was only in 1834 that Dupasquier, of Lyons, distinguished no less as a chemist than as a physician, made some very interesting trials of this preparation in the treatment of pulmonary phthisis, and proposed a new method of preparing it. He then showed that he had performed several cures upon patients affected with crude pulmonary tubercles, and had considerably relieved others whose tubercles had begun to soften. In the hands of others, however, the use of iodide of iron has not been attended with uniformly good results, probably in consequence of the uncertain nature of the preparation; sometimes too much of the iodide was received into the stomach, and besides this, there was occasionally an excess of iodine present, which was converted in the system into hydriodic acid. In recent times, M. Gille has proposed to administer the iodide in the form of sugar-plums, and in the formula recommended it is said that the proportions of the iron and the iodine are preserved unaltered. M. Boinet records two cases of abscess of a very aggravated character cured by the internal use of iodide of iron, together with iodureted injections into the sac of the abscess. The first case was that of a child, nine years old, in whom there was caries of the fourth, fifth, and sixth dorsal vertebræ; and there were two abscesses, one in the back, on a level with the diseased vertebræ, and the other, also on the right side, in the iliac region. The disease had continued for several months without any amelioration, when, on the 8th of January, 1857, the abscess in the iliac fossa was punctured and injected with tincture of iodine; the patient was put upon good diet, and cod-liver oil was given internally, together with sugar-plums (*dragées*) of the iodide of iron. On the 17th of January both the abscesses were punctured and injected at the same time. This operation was subsequently repeated on several occasions, and under this treatment the fistulous openings caused by the punctures gradually dried up, and at last became completely cicatrized. The child improved in all respects, and under the use of the iodide of iron in sugar-plums, and the influence of strengthening food, became strong and well. The second case was that of a man, aged sixty-three, under the care of M. Malgaigne, at the Hôpital St. Louis, who had a large abscess below the crural ligament. M. Boinet punctured this abscess, which discharged more than three pints of a grumous pus. The opening was then injected with tincture of iodine; the abscess remained fistulous for some time, and allowed a small quantity of pus to flow out every day, but it soon closed. The iodide of iron was administered internally, and the patient was put upon a strengthening diet; and six weeks after the operation and the internal use of the iodide, the patient left the hospital quite well.

In a lecture on chlorosis by M. Gendrin, the lecturer recommends iron and manganese as the best remedies in this disease, and passes in review the different preparations of iron which are employed in medicine. One of the

most useful preparations in cases of chlorosis complicated with scrofula, or only with a lymphatic temperament, is the iodide of iron. But, unfortunately, this salt is very easily decomposed, and in order to employ the syrup with advantage, it should be prepared at the very time when it is to be taken. The invention of M. Gille fulfils the objects of practitioners in recommending this medicine, for he envelops the iodide with a layer of sugar, which altogether prevents the access of air. These sugar-plums have been preserved more than two years without any alteration of the iodide. M. Gendrin speaks strongly in favour of this preparation, the value of which consists not only in the indefinite preservation of the ferruginous salt, but also because it renders its administration easy and agreeable. The iodide of iron has the advantage over other preparations, of being well borne by the patient, an advantage which it undoubtedly owes to its great solubility.

M. Rostan, in a lecture on chlorosis, says that the iodide of iron possesses, in the promptitude of its curative action, a very manifest advantage over the other ferruginous compounds; the syrup of the iodide has not been used in medicine so much as it would have been if it had more stability; but the preparation of M. Gille renders the administration of this salt as easy as that of the oxide or the carbonate.

In phthisis, the iodide of iron has been found to act very beneficially, and its importance in this disease will be increased when it is preserved chemically pure, and given in suitable doses. Louis, Andral, and Bricheteau, have all used with success the syrup of the iodide of iron in pulmonary tubercle; and more lately Dr. Belouino has published some cures of this disease effected by the administration of the sugar-plums of M. Gille. "Recent observations," says Dr. Belounio, "have assigned to iodide of iron an important place among therapeutic agents, and it may be boldly placed among the best medicines which we possess. Formerly it was unworthy of confidence, because it was badly preserved and was easily decomposed, and consequently did not give always identical results. Physicians, in consequence, declined to make use of it. At present the iodide of iron—thanks to the laborious researches of M. Gille—is preserved in a state of perfect purity. I have had occasion to employ very often the preparations of this gentleman, and I have attained experimentally the conviction that the iodide of iron is an excellent medicine in cases of anæmia, scrofula, rachitis, chlorosis, and often in certain cases of pulmonary phthisis in which the organism requires to be strongly fortified." Dr. Belouino records two cases of phthisis which were cured by the administration of iodide of iron; one was the case of a lady, aged twenty-four; the other that of a child, aged five; in both, the existence of tubercular disease was ascertained, but it disappeared under the use of the iodide.—*Brit. and For. Med.-Chir. Rev.*, July, 1858, from *Journal des Cliniques des Hôpitaux de Paris*, May 10, 1858.

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10. *Therapeutical Uses of Strychnia.*—Dr. H. R. DE RICCI states (*Dublin Quarterly Journ. Med. Sci.*, Feb., 1858), that for many years past he has employed nux vomica and its preparations in a great many different forms of disease.

The diseases in which he has found these of most use, "are those where, from some cause or other, the *nervous powers* are not as vigorous as they should be—where there is a lassitude and a want of tone in the system—in short, in cases of *functional derangement;* whilst in *lesion* or disease of the nervous centres, its employment has always proved injurious in my hands. In every form of dyspepsia not arising from organic lesion, its use will be found advantageous, but most especially in the dyspepsia of literary men, lawyers, and scholars, especially when accompanied by constipation. Also in that relaxation of the muscular fibre, total lassitude, and want of tone, for which the physician is so often consulted by ladies who go out much into society; a state almost invariably accompanied by leucorrhœa, indigestion, loss of appetite, and a certain amount of erethismus—here nux vomica and its preparations will be found of the greatest value. But it is in chlorosis that its efficacy will be really manifested—for though chlorosis is ranked as a blood disease, it is, more strictly speaking, a disease of impaired innervation; and the deficiency

of red disks in the blood, which causes the peculiar greenish-yellow colour of the patient, and from which very appearance the name of the disease is taken, is the effect of imperfect assimilation, the primary cause being either an impaired or perverted action of the nervous functions, a fact which will be apparent to the most superficial observer: for how often will be found, out of a large and healthy family, one of the daughters, *and one only*, acquiring by degrees the pallid look of incipient chlorosis, while all the rest retain their wonted healthy aspect; and yet the sickly one has all the while been exposed exactly to the same physical conditions, breathed the same air, dwelt in the same rooms, eaten the same food—why then should this one be deficient in blood-disks? If now the careful physician searches into the cause, he will, in all probability, find out by degrees that, some time previous to the setting in of the disease, the patient had suffered from some strong mental emotion—a sudden fright, or sudden unexpected sorrow—and from that had dated the commencement of her illness.

"By far the greater number of chlorotic cases which I have met with in the upper classes had their origin in some such mental impression, and this fact would of itself, I think, be sufficient to characterize this disease as one of deranged nervous function, even if we had not the corroborative testimony derived from medical treatment. Now if a case such as I have supposed is treated solely with chalybeates, but little progress will, in all probability, be made towards recovery: in vain you will administer the metal so much needed by the system—the lacteals will fail to *discern* and appropriate it. It will pass away by the bowels, and there do mischief by increasing the constipation already, most probably, existing. To remedy this the usual purgative of aloes and other such drastics will be recurred to, probably in heroic doses, and then, by increasing the debility, the patient will be placed in a worse condition than before. Let, however, the iron be combined with quinia, a medicine which I need not say acts especially on the nervous system, and the improvement will be manifest; but if for quinia you substitute strychnia, then the effect will be truly surprising. Until lately I was in the habit of adding the strychnia in solution to a bitter vegetable infusion containing some preparation of iron, generally the citrate, but my friend Dr. Aldridge having brought under my notice a double citrate of iron and strychnia, analogous to the well-known preparation of iron and quinia, I have adopted its use with marked advantage and success. This salt contains, I am told, one grain of strychnia in every hundred. The dose I have been in the habit of commencing with has been two grains twice a day, immediately *before or after* a meal, selecting in preference breakfast and lunch, and increasing its gradation to ten and fifteen grains twice a day. My prescription has generally been the following: Citrate of iron and strychnia, forty-eight grains; chloric ether and aromatic spirit of ammonia, of each a drachm and a half; infusion of chiretta, sufficient to make a twelve-ounce mixture: of this, a tablespoonful at dinner and lunch. By the use of this combination the troublesome constipation, frequently alternating with diarrhœa, so often accompanying chlorosis, will be entirely obviated; the bowels will resume their healthy action, in consequence of their peristaltic motion being improved, and the lacteals and absorbents being roused to increased action, will seize upon the metal and rapidly assimilate it. The combination of strychnia with iron will also tend to check that excitability which manifests itself under so many and varied forms in this disease, and will correct that lassitude which is one of the characteristics of this malady."

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11. *Saoria as a Remedy for Tapeworm.*—Dr. Strohl published, in 1854, a memoir upon the principal *tæniafuges*. This work was undertaken to make known some remedies of this nature sent from Abyssinia by M. Schimper. This country abounds in tænia, and there are very few inhabitants who are not troubled with the parasite. It seems, however, that nature has placed the remedy close to the disease, and that Abyssinia possesses very powerful anthelmintics. One remedy which exercises a mild and certain operation over tapeworm is the *saoria*, or fruit of the *mæsa picta*. Dr. Strohl administered it to thirteen persons, some of whom were sickly women, and one was a child two

years old; and after the expulsion of one worm, no other appeared in any of the cases. The new observations made upon this substance confirm Dr. Strohl in his previous favourable opinion of the remedy, and the results of his experience prove to him, 1st. That saoria is a more certain tæniafuge than the remedies of the same class indigenous to France, but that the constancy of its operation is not yet proved; it appears to kill the worm. 2d. It action is mild, seldom accompanied with disagreeable effects, and it is not difficult to swallow. 3d. It may be administered without fear and easily, to young children, to women, and generally to persons of deteriorated constitution and with a weakened digestive canal. 4th. These different properties secure its superiority over the tæniafuges indigenous to France. 5th. It is preferable to kousso, in consequence of its milder action, although a tænicide remedy, and of its being much more common than kousso, from the low price at which it might be obtained. Its preservation, which is easier and longer, is also an advantage over this last medicine, and over the fern. 6th. Time alone can determine whether its action is radical, or only palliative. Dr. Strohl's mode of administration consists in mixing the saoria with some aromatic infusion, and the medium dose for an adult is twenty to thirty grammes. It usually acts as a purgative, and this action may be promoted by giving, in addition, some castor oil.—*Brit. and For. Med.-Chir. Rev.*, July, 1858, from *L'Union Médicale*, Dec. 29, 1857.

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12. *Iodide of Calcium.*—Dr. J. Pidduck read before the Royal Medical and Chirurgical Society (June 8) a paper, the object of which was to call attention to this new salt.

Dr. P. has used it extensively since 1855, in public and private practice, with satisfactory results. It has not, he said, been brought with a view to supersede the valuable preparations of iodine already in use, but as a preparation which might be used in cases wherein the iodide of potassium was inadmissible. Its advantages were: that the solution given in milk was tasteless; that being readily decomposed by the weak acid of the stomach, it was presented for absorption in a state of atomic division; that it did not excite the circulation, nor irritate the stomach or bladder by passing off too rapidly by the kidneys; that it did not occasion iodism or resorption of the healthy tissues. The diseases for which it has been successfully prescribed by the author, besides those strumous affections for which the other preparations of iodine were generally used, were: chronic catarrh and bronchitis; incipient phthisis; squamous diseases of the skin; chronic metallic poisoning by mercury, lead, and copper. Under its administration the gums had become healthy, the fetor of the breath had been removed, the neuralgic pains had been relieved, and the patient's health had been restored. The forms in which it had been prescribed were: the simple solution; the solution and compound fluid extract of sarsaparilla, and fluid extract of dandelion; the solution and tincture of sesquichloride of iron; and with other tonic and bitter vegetable infusions not containing starch. —*Med. Times and Gaz.*, June 26, 1858.

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13. *New Local Application in Erysipelas.*—M. Anciaux speaks in high terms of the following application for erysipelas and some other cutaneous affections: —Alum, reduced to impalpable powder, 30 parts; white precipitate, 1 part. Rub up well together, and place the powder in a bottle, and then add from 90 to 100 parts of glycerine. Shake the bottle until the mixture assumes a creamy consistence, and repeat the shaking whenever the application is about to be employed.—*Dublin Hosp. Gaz.*, July 1, from *Presse Belge*, 1857.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

14. *Diphtheritic Affections.*—A late No. of the *Archives Générales de Méd.* contains an interesting paper by M. Isambert on diphtheritic affections and on

the malignant angina in Paris in 1855. The following are the author's conclusions:—

Diphtheritic affections sometimes appear sporadically; they often seem to be endemic, and also epidemic and contagious. Epidemic influences are often the principal causes. Contagion does, however, really exist, as several medical men have been infected.

Shall we agree with M. Bretonneau, and believe that diphtheritis is not propagated by the air, but is always the result of a kind of inoculation or actual contact of the morbid secretion with a mucous membrane? The author thinks this opinion too exclusive, as also does M. Trousseau.

Diphtheritic affections are generally preceded by initiatory symptoms in the form of bronchitis, with more or less fever. The general aspect of these affections, at an advanced period, is of the adynamic kind, except when there is much agitation and convulsive effort brought on by croupy exudation.

These ailments are of a decidedly specific nature; the more they are studied, the more we remain convinced that inflammation is of secondary importance, and is sometimes completely absent.

Relapses are not rare in diphtheritis; this complaint therein differs from other specific diseases; as variola, rubeola, and scarlatina.

The general treatment should be directed against the inflammation, if it be present, which circumstance is, however, rare. Abstraction of blood should be used cautiously in an affection which so soon assumes a typhoid character. Cutaneous counter-irritation should be completely avoided, as the irritated regions soon become centres of new diphtheritic manifestations. Emetics are extremely valuable; and alteratives, mercury, alkaline carbonates, and chlorate of potash, are often useful.

Local treatment is very important, and consists of an energetic modification of the affected surfaces. Calomel, alum, hydrochloric acid, and especially solutions of nitrate of silver, are always indicated.

The patient should, finally, be well sustained, besides taking medicines, as there is a tendency to a typhoid state in this kind of affection. He should also be given tonics, as bark, coffee, and wine; the latter tonic is especially advisable during convalescence after severe diphtheritis.

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15. *Epidemic Diphtheritic Angina at Lima.*—About the close of the month of July, 1851, an epidemic grippe appeared, and suddenly attacked the whole population of Lima, and was fatal, particularly to old people, in consequence of grave pneumonias which were developed in its course. The first cases were observed from the middle to the twenty-fourth of July, and extended rapidly and simultaneously to all the inhabitants of this city, so that, during the height of the epidemic, the streets were deserted for ten or fifteen days. Since that period, we have suffered two other epidemics, one ever memorable on account of the great ravages it caused—the yellow fever, the first invasion of which occurred in the summer of the year 1852, in a benign form, to become grave and fatal in the years '53 and '54; and the diphtheritic angina, which, though not so general or fatal as the preceding, did not fail to secure some victims, notwithstanding the small number of persons attacked.

To this last, which still prevails, we devote a few lines.

If we may rely upon the few and incomplete records left by our predecessors, relative to the epidemics which have inflicted the inhabitants of Lima, the diphtheritic angina appeared here for the first time in the year 1821, and then, as now, merited the epithet epidemic, because it appeared simultaneously in a large number of individuals. Since that date, we have no notice, nor does there exist any document to show its reappearance until the year 1850, when it attacked, sporadically, a small number of persons, to whom it proved fatal. Four years passed, and in 1855, it extirminated almost an entire family, without extending beyond the house in which it caused such marked ravages. And, in the month of April last, 1858, it appeared again, and from that time to the present, there is scarcely a practitioner who has not had at least two or three cases under his care. It is worthy of remark that our estimable fellow-member, Dr. Josè J. Bravo, prognosticated the invasion of this disease in February

last, on the ground that it had appeared a year and a half ago epidemically at Piura, passed to Trujillo, and thence to Huacho, places where it had some victims, and that it was rational to expect so fearful a guest, which, from its origin, was propagated from north towards the south.

As the diphtheritic or pseudo-membranous angina now prevailing does not differ in its symptoms or anatomical characters from that described by authors under the same name, or from that which we have mentioned as described by Dr. Valdés, we believe ourselves to be excused from entering into details, contenting ourselves, for the present, with merely indicating the class of society in which the diphtheritic angina appeared more especially, the proximate number of sufferers, and the treatment resorted to in preference by a majority of the profession.

It was natural to expect that, once developed amongst us, this disease would find its largest number of victims in the needy class, as happens in certain European populations, where it prevails with some frequency; but the contrary has happened, for it has attacked, in preference, persons who enjoy all possible comforts, and in so marked a manner that, in the hospital for men, there has not been a single case, and in that of Santa Ana, for women, there has been only two. The black race, up to this time, has been as resistant to this angina as it was to the yellow fever. It is to be regretted that no data on this point can be obtained from the history of the epidemic of 1821, above mentioned. For this and various other reasons, we have characterized the description by Dr. Valdés as incomplete.

We should have been pleased to present an exact statement of the number attacked by the angina; but it may be readily perceived that such a labor is impracticable, inasmuch as it has not yet ceased, and because it has not occurred in the hospitals, where it might be accurately made.

Notwithstanding the many impediments we have encountered, we have succeeded in obtaining, from a majority of the most respectable practitioners, the number of cases they have treated, with the following result:—

Of 70 cases of diphtheritic angina, 49 were females and 21 males; 55 were cured and 15 died. Of the 15 deaths, only two were adults, the rest between 3 and 12 years of age, much the largest number being between 3 and 5 years old. Of the 55 cured, only 5 were under, and the remaining 50 exceeded 12 years of age. The whole 70 patients belonged to the white race. The total number attacked up to this time is between 80 and 90.

The majority of physicians have decided in favour of cauterizations with pure chlorohydric acid, practised two or three times a day, according to the gravity of the case, and emetics of tartar emetic or ipecacuanha, alternately employed. It is not our object, nor is it possible, to decide upon the degree of curative efficacy in diphtheritis which the cauterizations may possess; but we ingenuously confess that this treatment, employed actively from the beginning, has yielded happy results in the greater number of cases, and it has been inefficacious in the most of those cases in which it has been applied two or three days after the development of the disease.

We hope that time and experience will determine the true value of this remedy, which is considered impotent by some of our practitioners. We have employed emetics exclusively for their mechanical effects on the pharynx, favouring the expulsion of the false membranes; but it may be said, in passing, that their abuse in children produces more hurt than advantage, and they do not tolerate them as well as adults, in whom we have observed no accident, although fear, caused by the gravity of the disease, may have induced us, perhaps, to carry them further than we ought. As purely auxiliary, we have used opiate gargles, and the liquor of Labarraque. We know that some have employed different therapeutic agents in this angina, such as bark, internally, baths, gargles, and cataplasms of a concentrated decoction of the same, sulphate of quinine, cauterizations with a concentrated solution of nitrate of silver, or sulphate of copper, &c. &c.; but we are entirely ignorant of the opinion which should be formed as to their utility. M. Odriozola.

In *Gaceta Medica de Lima. Organo oficial de la Sociedad de Medicina.* Lima, July 15, 1858.

16. *Diphtheria, or Diphtherite.* By DAVID THOMPSON, Esq., of Launceston.—About three years since, this neighbourhood was visited by an epidemic of this rare disease. The first cases occurred in the town, and no others then appeared for several months, when it again broke out in the district north of this place, where it prevailed for several months, whilst the south side was comparatively free from it. From the north, it gradually spread, until the whole line of country had been visited by it. There appeared to be no difference in the geological nature of the country, the level, or the aspect, in increasing the severity or granting an immunity from the disease. The premonitory symptoms varied somewhat. A few retired to rest comparatively well, and awoke in the morning with the throat sore, and covered with white deposit. In the majority, it was preceded by all the ordinary symptoms of pyrexia, of which headache was one of the most severe, followed in the course of a day or two by the usual throat symptoms. An extreme feeling of depression, not to be accounted for, by the amount of mischief in the throat, was a characteristic symptom in each case. An external examination of the throat showed the tonsil generally to be swollen, hard, and tender to the touch; while sometimes the parotid gland participated in the swelling. Internally, the tonsil was swollen, and either covered with the diphtheritic deposit, which frequently extended over the pharynx, and sometimes into the nares and palate, or else it would be scooped out into an ulcer, with raised violet-coloured edges; the floor exhibiting a dark ash-coloured slough. In some instances there would be no deposit or ulceration at first, but simply the tonsil painful and enlarged. These cases generally changed for a state of ulceration, which began in several distinct spots, and gradually spread over the whole tonsil. In the most severe examples, the tonsil sometimes sloughed *en masse*. I saw one instance in which this occurred, in an early stage of the disease; and where now (two years since it occurred) a cavity remains, capable of containing a pigeon's egg, across the surface of which extends a small band of mucous membrane, which did not slough at the same time, and gives great inconvenience, from retaining the food impacted in the hollow during deglutition.

I have seen no case in which I could detect the extension of the disease into the œsophagus; but in many it has entered into the air-passages, this being the most frequent and most fatal complication. Of 485 cases that came under my own observation, the instances in which the air-passages became involved in the disease amounted to 15; and of this number 11 died, the greater number within a few hours after the first symptoms of croupy breathing began. The false membrane formed on the tonsil and pharynx extended into the larynx, trachea, and frequently far into the minute divisions of the bronchi. In one instance, a girl aged 17 expectorated, within twelve hours after the first symptoms of croup made their appearance, a complete cast of the larynx, trachea, and bronchial tubes, extending to the fifth division of the bronchi; in a few hours afterwards, a fresh membrane formed, and she died from suffocation.

In many instances, I saw numbers of minute casts expectorated from the lungs, while at the same time a stethoscopic examination gave all the symptoms of capillary bronchitis. A gentleman, aged 46, died from this condition of the lungs. His throat was first affected. After a few days, the breathing became impeded, with all the ordinary symptoms of capillary bronchitis in the first stage, the throat continuing to improve. He gradually sank, constantly expectorating casts of the small tubes, precisely similar to the deposit in the trachea.

I kept accurate notes of 125 of the most severe cases, including all the deaths.

	Cases.	Deaths.
Males	55	9
Females	70	4
Totals	125	13

The deaths, with two exceptions, were all below fifteen years of age; and, with two exceptions, were all from affections of the air-passages. In the two who died from other causes than affections of the air-passages, death occurred

in one from the sloughing of a blister, applied for three hours to the upper part of the sternum; and in the other from extreme debility remaining after recovery from croup. There was a very remarkable tendency for blistered surfaces to take on unhealthy action; and I frequently saw the irritated surface covered with a deposit similar to that on the throat.

A strong similarity appears to exist between this disease and scarlet fever, so strong, as almost to lead one to hazard the opinion that it may be a modification of that disease. The following are the reasons for considering so:—

1. Diphtherite prevailed in this neighbourhood as a contagious (?) epidemic at the same time as well-marked scarlet fever, and chiefly among children.

2. In the same house, the father and mother had well-marked scarlet fever severely, without any ulceration or deposit on the throat; while the three children had all the marked symptoms of diphtherite, without much feverishness and *no rash*, though attended by the same premonitory symptoms, the cases occurring at the same time.

3. In many instances, cases of apparently pure diphtherite were, after some days, attended by a rash, that seldom remained more than a few hours.

4. The disease in most instances commenced with all the symptoms of fever, its duration being similar to that of scarlet.

5. In cases of apparently pure scarlet fever, the throat became, after a few days, covered with diphtheritic deposit.

6. The sequelæ of the two diseases nearly resembled each other; albuminous urine, with casts, being present in eight cases of diphtherite, and anasarca proving fatal from convulsions in one.

It would occupy too much space to give more than a mere outline of the subject; but future and more extended experience than mine may prove whether there is any connection between the two diseases. Deafness was a not unfrequent sequela of diphtherite and temporary paralysis; in all instances these were recovered from. I have only known one case of diphtheritic ophthalmia to have occurred in the neighbourhood. In that instance, the deposit extended over the lower half of the conjunctiva.

The treatment most successful was the early and thorough application of lunar caustic to the throat, together with the use of a stimulating gargle of nitrate of potass and capsicum, or solution of chlorinated soda (Beaufoy's) diluted. When there was much feverishness in the early stage, an emetic appeared sometimes to benefit. Mild but continued counter-irritation over the upper part of the chest appeared of great service. General treatment, beyond keeping the secretions regular, was of little use, and frequently injurious. Depletion of any sort did an infinite deal of harm. Stimulants were often required in an early stage. The chances of recovery when croup set in severely were but small. The only chance seemed to be, in the rapid exhibition of small doses of calomel and ipecacuanha, with stimulants. Under this treatment, four out of fifteen recovered who were affected with this complication. Tracheotomy was tried, but of no service, as the false membrane extended beyond the trachea.

In a number of the *Lancet* for, I think, the year 1832, there is a most characteristic case described by Dr. Alison, of Edinburgh, as having occurred in the Royal Infirmary, and which terminated, as the fatal cases here did, in croup.

A careful microscopic examination of the white deposit showed nothing different from the usual appearances of exuded lymph.—*British Med. Journal*, June 5, 1858.

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17. *Effect of Local Influences on Spasmodic Asthma.*—The *Edinburgh Medical Journal* for June last contains an interesting paper on this subject by Dr. Hyde Salter, in which the author relates a number of striking examples illustrative of the effect of local influences on spasmodic asthma. These cases establish the following conclusions:—

"1. That residence in one locality will cure, radically and permanently cure, asthma resisting all treatment in another locality.

"2. That the localities that are the most beneficial to the largest number of cases are large, populous, and smoky cities.

"3. That this effect of locality depends probably on the air.

"4. That the worse the air for the general health, the better, as a rule, for asthma; thus the worst parts of cities are the best, and conversely.

"5. That this is not always the case, the very reverse being sometimes so—a city air not being tolerated, and an open pure air effecting a cure.

"6. That there is no end of the apparent caprice of asthma in this respect, the most varying and opposite airs unaccountably curing.

"7. That, consequently, it is impossible to predict what will be the effect of any given air, but that probably the most opposite to that in which the asthma seems worst, will cure.

"8. That some of these differences determining the presence or cure of asthma appear to be of the slightest possible kind, arbitrary and inscrutable.

"9. That the mere conditions of locality appear to be adequate to the production of asthma, in a person whose disposition to it was never before suspected, and who probably would never have had it had he not gone to such a locality.

"10. That, consequently, many healthy persons, who never have had asthma, and never may, probably would be asthmatics if their life had been cast in other localities.

"11. That *possibly* there is no case of asthma that might not be cured if the right air could only be found.

"12. That the disposition is not eradicated, merely suspended, and immediately shows itself on a recurrence to the original injurious air.

"13. That change of air, as change, is prejudicial.

"14. That, from the caprice of asthma, the constancy of the results in any given case is often deranged."

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18. *The Diagnosis of Pulmonary Consumption at its Commencement.*—Dr. Scott Alison read a paper recently on this subject before the Western Medical and Surgical Society. The importance of diagnosis at an early period was shown by reference to facts arranged under three heads—1st, the vast mortality in advanced stages; 2d, the great destruction of the lining structure almost invariably found when the disease has long existed, in a great proportion of cases excluding all reasonable hope of remedy; and 3d, the material benefit afforded in a very large proportion of cases easily diagnosticated and treated. The number of patients under the care of the author at the Hospital for Consumption at Brompton, who here formed the grounds for calculation, is nearly 2000. The mortality in advanced cases has been very great, and very few have presented signs of permanent restoration to health; whilst the mortality in early cases has been comparatively trifling, even when long observed. About one-half of these latter cases have been greatly improved, and have presented satisfactory evidences of the disease being arrested. Numbers have returned to their employment, or applied themselves to less laborious and exposed occupations. Muscle and fat have greatly increased, cough has been removed, and the respiration has been deprived of much of its shortness. About three-fourths of these patients presented grave symptoms and the usual physical signs; while the remainder presented either well-marked physical signs without material symptoms, or very marked symptoms with physical signs rather beneath the average weight of evidence ordinarily deemed proof of phthisis. The author regards the results as due to the early period at which disease was diagnosticated, and not to any particular method of medical treatment. Early diagnosis would be secured by a complete inquiry into the history of each case, by regarding the entire series of symptoms, and by a complete physical examination instituted at once, the chest being freely exposed back and front. The present state of medical knowledge was such and so widely diffused, that it was not likely we should be able to find any new symptoms of the disease, one which had been carefully observed for ages; but it was not unlikely that we should increase our knowledge of the physical signs. In the particulars of sound, form, and motion, additions would probably be made; but it was with respect to sound that most advance would be effected. Simple observation by the present means of auscultation would probably suffice to do much, but it

was not unlikely that improvements in our instruments for auscultation would render assistance. Dr. Alison referred to certain sounds which he had frequently heard in phthisis at its commencement, and before dulness of percussion had manifested itself, or was materially pronounced. The sounds were an "arrowroot-powder" sound, very fine, and accompanying expiration; buzzing, humming, and kettle-boiling or kettle-singing sounds. He was as yet uncertain as to the mechanism of the kettle-singing sound, but was inclined to think the evidence pointed to slight pressure on the veins of the lung causing oscillations of the blood and vessels, such conditions as are produced in the neck by gentle pressure with a stethoscope or by tightened integument. This sound is continuous, and several of the patients who presented it had suffered from hæmoptysis. Crumpling sounds had been frequently heard. A great means of discovering phthisis was afforded in the differences in the character and amount of respiration; and he (Dr. Alison) believed that the instrument which he had made, which gave a stethoscope for each ear, and which he designated the Differential Stethoscope, would prove available in rendering very slight differences in respiration appreciable, which could scarcely be discovered by the ordinary stethoscope. The ordinary stethoscope necessitated removal of the instrument from one part to another, and a certain loss of time, though slight in itself, important when comparing two sensations nearly alike, was incurred. For the diagnosis of pulmonary consumption at its commencement, we should look for the signs of that disease at that period, and not for those of later periods. The acoustic properties of the lung with small points or spots of tubercle were, and must be, different from those of that lung which is so studded with tubercles, or so infiltrated with that material, that nearly all the lung tissue proper is pressed upon or obliterated, or when the lung is broken down and has little cohesion, and presents numerous cavities. (The Differential Stethoscope was exhibited to the Society.) In many examples of pulmonary consumption no dulness on percussion whatever is found; and not one of the recognized signs is present in all cases, or even at all times in the same case. We must be content with a certain amount of evidence, and that will not be the same in all cases, or in the same case at different times. Deviations from the natural configuration of the chest occurred in pulmonary consumption at an early period. These were made out by their history and by comparing one side with another. The author's Chest-Goniometer would serve in discovering the deviations from the natural angles and curves, and in measuring them. The measurement at one period might be compared with the measurement at another. (The instrument was exhibited.)

Specimens of tuberculated lung, both in the early and later stages of the disease, were exhibited; and they served to prove that the physical signs in the different conditions of lung must greatly vary, and that the lung dotted with solitary tubercles the size of mustard-seeds, would afford few if any of the ordinary signs, and chiefly produce deviations in quality from the natural respiratory sounds, and some such delicate new sounds as had been referred to. The author was not prepared to say that these delicate sounds would not be found in other morbid states besides phthisis, but the same limitation held in respect of all other sounds.

The examination of the sputum, and the discovery by means of the microscope of tubercle and lung tissue, were referred to.—*Lancet*, June 19, 1858.

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19. *Diet in Phthisis.* By M. Champouillon.—The ideas formerly entertained regarding the nature of phthisis have now given way to others of a more sound and better established character. Tuberculization of the lung, so long considered as a mere local disease, is now recognized as a general or constitutional affection—a diathesis having its elements, so to speak, throughout the whole system, and only localizing itself in the lungs when circumstances favourable for such an occurrence arise. Such a mode of origin being admitted, if not demonstrated as being that of tubercle, we are consequently called upon to inquire what are those means most likely to modify or to counteract it; and to the particular kind of aliment adopted by the individual has been attached the greatest amount of importance in this respect, as being the most energetic

of all those influences modifying that condition of the organism associated with this disease.

M. Am. Latour, who has to a great extent appropriated this question of dietetics, has recently laid down rules for the regulation of aliment in tubercular disease, both as a prophylactic and curative means of treatment; and, impressed with the analogies subsisting between phthisis and scrofula in general, has come to the conclusion, that a regimen of a tonic nature is equally suitable for both of those affections. In this way, rich soups, animal food roasted or grilled, old claret, goat's milk salted, etc., mainly constitute and limit the regimen he prescribes in pulmonary cases of this kind. M. Rufz is somewhat bolder in his advice to such patients: "Enjoy life; go out or come in, on horseback or on foot, as you please," says he, "but go." Such confident treatment could only be justified by success; and success in this way does not appear to have been wanting to M. Rufz, who, in support of his doctrine, adduces two remarkable examples.

Dr. Noverre, a confirmed subject of tubercle, on seeking a warmer climate in the West Indian islands, was there necessitated to be on horseback night and day—exposed alternately to a burning sun and heavy rains—in a word, to the very extremes of atmospheric vicissitudes. During his whole residence there, however, he ate and drank well, cured his phthisis, and died of dysentery 25 years after his arrival at Martinico.

M. Bidoult, another medical man doomed as labouring under phthisis, also sought to re-establish his health by a residence in the same place; he followed the mode of life of his countrymen Noverre, entering into all the excitements and good living to be had. How this intrepid *viveur* ended his days M. Rufz does not mention.

A diet of mutton chops and generous wines, says M. Bricheteau, again, may no doubt be beneficial in certain cases of pulmonary tuberculosis, but the digestive system in such persons must not have lost its energy. "We cannot sufficiently disapprove," says he, "of that advice which does not hesitate to recommend substantial food, tonics, and excitants to those unfortunate patients who already can scarcely digest milk or soups, and who are reduced by colliquative diarrhœa. Among patients treated in this manner, we can adduce one instance where the alimentary canal was so injured by perseverance in a regimen of this kind, that death became accelerated, and was due to rapid tuberculization of the intestines, rather than to any softening of the tubercular deposits at first formed in the lungs."

M. Andral, in his additions to the "Treatise of M. Laënnec," when speaking of individuals affected with tubercle, and in whom a tendency to inflammatory conditions exists, says: "In these cases a milk diet is of service;" while on the other hand, in reference to the more asthenic examples, he says: "Among such cases the milk diet is contra-indicated; and if it is attempted, it soon has to be laid aside, as the health suffers, and the time shortly comes when such diet ceases to nourish." Thus, according to the judicious observations of M. Andral, two different morbid states proper to phthisis must regulate the choice of aliment in this disease; far from being of a uniform and invariable character, the *therapeutique* of tuberculosis differs so much as to be the cause of great difficulty in its treatment, and in this way, however much authority M. Latour's name may possess, we cannot believe that generous or stimulating diet and salted milk should be the best method of treatment in all cases of phthisis.

The tonic method of treatment in this disease is by no means new; it was recommended by Morton, Portal, Raullin, etc., but by them only in particular cases. This method, no doubt, may be of service in cases where the patients are scrofulous or cachectic, or born of tuberculous parents, and where it is desirable to alter the constitution. But we know that the lining membrane of the stomach, partaking of the morbid condition existing elsewhere, may become atrophied or hypertrophied, ulcerated or softened, and in that way give rise to dyspepsia of a most intractable character, and rejecting all kinds of regimen—not excepting that of an exciting quality. Analogous disorders attack the intestinal canal, and all aliment in such circumstances becomes a cause of diarrhœa

and debility. Phthisis may be apyretic, but is more frequently accompanied by fever, and sometimes by hæmoptysis, because the tubercles in the lung are only one result of a cause which induces an inflammatory condition beyond them, and extending to other organs, which become irritated, congested, and inflamed. The usual custom is to combat this state by an unexciting regimen; but, according to M. Latour, this is a mistake. Now, can the proper mode of treatment consist in stuffing such patients with soups, animal food, wine? The fact is, that this procedure may answer well enough in such cases of scrofula as require support and stimulation, and in whom the leucophlegmatic condition amounts to cachexia; but in pulmonary cases what is required in general, is a regimen of a mild and refrigerent description. M. Latour, in addition to tonic and excitant remedies, employs salted milk, *le lait salé*, in large doses; but, laying aside the contradictory nature of these modes of treatment, it becomes a question, how far this species of milk diet is of service in phthisis. By its composition, milk is a species of food complete as it were in itself; it is digested and assimilated without increasing the rapidity of the pulse, without augmenting the natural temperature or stimulating any organ except the kidney, and it is therefore well entitled to be considered as a mild and unstimulating form of aliment, and one well adapted for patients of a nervous or sanguine habit, or those who have been emaciated by irregular life or by tuberculosis. At the same time, it must be kept in mind that milk is a species of food which disagrees with many persons, and that bilious patients in general have a repugnance to it; and, further, we must recollect the numerous adulterations to which it is frequently subjected, should we wish to prescribe its use in phthisical cases in large towns. As for any choice existing between the different species of milk, this seems to be merely an imaginary matter.

Does the addition of salt add in any way to the therapeutic virtues of milk in phthisis? M. Latour asserts that it does so: M. Louis doubts this alleged fact, and I agree also in doubting its effects. "I have given sea salt," says M. Louis, "to all the patients received in my division of the Hôtel Dieu, and in no case have I observed any amelioration of the symptoms, or any appreciable effect whatever, which I could attribute to the use of this remedy. I may state that these patients were for the most part fed almost exclusively on roasted meat—at least so far as their stomachs would bear it."

If it were true that marine salt were really a solvent of tubercular matter, we should find the inhabitants of the sea coast, as well as also soldiers and sailors—who are constantly using salt provisions—to be free from phthisis. Unfortunately this is not the case. But I would not wish to appear bigoted in my opinions, either for or against a remedy which I have not put to the test. Among the various contradictory opinions prevailing in regard to the treatment of tuberculosis by salt, time alone, by giving an opportunity for the observation of new facts, will decide the efficacy of such treatment. In regard to the method of treating such cases by high and irregular living, I doubt that, with the exception of certain anomalous cases, this style of cure can only be of service in such suspected tuberculosis as existed in the patients of Martinico. —*Ed. Med. Journ.*, Aug., 1858, from *Gazette des Hôpitaux*, Jan. 28, 1858.

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20. *Diabetes from Cerebral Diseases.* By M. Leudet.—Since the experiments of Claude Bernard have shown that irritating a limited portion of the cerebral substance is followed in animals by the production of sugar in the urine, the attention of physiologists and pathologists has been drawn to the question of how far some of the cases of diabetes met with in practice may be due to cerebral disease. As a slight contribution to the investigation of the subject, M. Leudet relates four cases, in which he believes this relationship is well made out; and from a consideration of the particulars of these, and of observations made by other practitioners, he comes to the following conclusions: 1. Diabetes arises, in certain cases, from organic changes in the brain. 2. Its commencement may coincide with that of the disease of the brain, or it may take place subsequently. 3. Cerebral disease attended with convulsive movements are those which are especially accompanied by glucosuria. 4. The diabetes may be temporary,

manifesting itself during an exacerbation of the cerebral disease, and disappear with this. 5. The symptoms of glucosuria differ, in these cases, in nowise from the ordinary disease developed under the influence of other causes. 6. The diabetes does not derive any aggravation from its antecedent. 7. The treatment should be that of ordinary diabetes.—*Med. Times and Gaz.*, July 10, from *Gazette Médicale de Paris*, Nos. 10–12.

21. *Rationale of the Saccharine Treatment of Diabetes.*—Dr. John Sloane, in a paper read before the Leicester Medical Society (April 20, 1858), gives the following rationale of the saccharine treatment of diabetes:—

"Glucose, the variety of sugar found in the urine of diabetics, is generated in the livers of animals throughout the animal kingdom, almost wholly irrespective of the nature of their food. The glucose secreted by the hepatic cells passes into the hepatic veins, thence into the inferior vena cava, and through the right side of the heart to the lungs, where, being exposed to the atmosphere, it sometimes completely disappears. M. Bernard has found sugar in the livers of mammals, of birds, of reptiles, of fishes, of molluscs, and of articulated animals. He has found it in omnivorous, herbivorous, and carnivorous animals. That the secretion of sugar is independent of the nature of the food, he proves by many experiments, of which I shall mention the following. He fed dogs exclusively on flesh for six or eight months; and when they were killed, at the expiration of that period, he found as much sugar in their livers as in those of dogs fed upon a mixed diet. Owlets taken in their nests were fed exclusively on raw bullock's liver for three months, and were then killed; their livers always contained the normal quantity of sugar. Two dogs were fed solely on flesh, three on both flesh and bread, and two on amylaceous or saccharine food; they were all killed at as nearly as possible the same period of digestion, and the results of the chemical examination of their livers showed that the quantity of sugar secreted did not depend on the nature of their diet.

"Rollo recommended the use of fat for diabetics. M. Thenard and Dupuytren made them eat lard. We have fed dogs with lard and axunge; and we have found this very curious fact, that, under the influence of this alimentation, the sugar diminished in the liver absolutely in the same manner as if the animal had been kept fasting. In dogs to which M. Bernard has given nothing but pure water, he has found the secretion of sugar kept diminishing, and it ceased to appear about three or four days before its death. For the first thirty-six hours, the quantity continues considerable, but during the following days it diminishes very rapidly.

"A dog, having fasted thirty-six hours, had a copious repast of boiled sheep's head, and, three hours afterwards, was killed. The blood in the portal vein, previous to its entrance into the liver, contained no trace of sugar; whereas, in the blood from the hepatic veins, there was a considerable quantity. This experiment, writes Bernard, would alone suffice to cause one to admit, as a natural and necessary conclusion, that the sugar is produced in the liver; yet we have accumulated proofs of every kind about this proposition; and we have shown that the hepatic tissue constantly contained sugar, and that it was the only tissue of the body which offered this character.

"In an animal fasting, the blood which arrives at the liver presents no trace of sugar; that which leaves it contains a considerable quantity. Inversely, the blood which arrives in the lung contains sugar; and that which leaves it presents no trace of this substance. The sugar in this physiological state remains hidden between the liver and the lung, and does not show itself at the exterior. This statement is true only in an animal fasting. When the digestion commences, the quantity of sugar gradually augments; yet during the two or three hours following the ingestion of aliment, notwithstanding the increase of the saccharine secretion, all the sugar can be destroyed before it arrives at the arterial system; and it is only after the lapse of time that the production of sugar surpassing the limits of destruction becomes temporarily excessive in the organism. At this period of digestion, one finds sugar in all the vessels of the body, arterial and venous, and even in the renal arteries; but the proportion is too slight for any of the sugar to pass in the urine. Yet we shall see that,

under certain physiological circumstances, the quantity of sugar can be increased to the point that it passes off in the urine without the animal being diabetic. Under the ordinary circumstances of digestion, this species of saccharine overflowing is manifested equally with animal or amylaceous diet, and it lasts about three or four hours. It is not less than six or seven hours after a meal that the excess of sugar in the blood commences to disappear, and that the equilibrium between its production and its destruction tends to re-establish itself as before digestion. This species of oscillation, which the glycogenic function presents, it is very important to know; for in the pathological state (diabetes) we find exactly the same phases, with the exaggerations we should expect in this malady. Different observers—Rayer in France, and Traube in Germany—have remarked that there are diabetics who do not pass sugar in their urine, except at the time of their digestion; and that, in the interval, their urine does not contain sugar. This phenomenon can be reconciled very naturally with the physiological fact which has been pointed out to you. There is nothing essentially different between the normal state and the pathological symptom, save the intensity of the phenomenon caused by a deviation of vital activity.

"The sugar is formed from the albuminous substances; and this sugar is the result of the physiological action of the liver upon those principles, which are divided so that their oxygen, hydrogen, and carbon, are grouped so as to form sugar, whilst their azote enters into other combinations, and probably into the azotized principles of the bile. One does not know, indeed, any other origin for the saccharine matter, which cannot be produced in the intestine by digestion. Experiment has shown us that, during alimentation, by means of albuminous substances, the intestine and the blood of the portal vein never contain saccharine matter of any kind. Neither gelatine nor flesh produce saccharine matter in the intestinal tube by the known digestive processes. The amylaceous matters taken as food enter as sugar into the portal vein, and, arriving at the liver in this state, are then destroyed by this organ, and changed into another matter, which has every appearance of a fatty substance converted into an emulsion *par une matière protéique spéciale*. We have said that the sugar introduced into the intestinal tube does not augment the quantity of this matter contained in the liver, but that it is there destroyed, and causes the appearance of an emulsive substance. That the sugar introduced into the intestinal canal does not augment the quantity of this matter contained in the liver, M. Bernard shows by the following experiments. He takes two rabbits, whose urine he first finds, by testing, to be free from sugar. Into the stomach of one he injects a quantity of sugar in solution, with some ferrocyanide of potassium. Beneath the cellular tissue of the other he injects half the quantity of an exactly similar solution. He examines their urine an hour afterwards, and he finds in that of the first not the least trace of sugar, while the urine of the second presents it in considerable quantities. But you may say that this difference may be accounted for by the intestinal absorption being less rapid than the subcutaneous; but in both the ferrocyanide of potassium was readily detected in the urine. This will prove that the absorption is equally effectual in the intestine as under the skin, but that, in the first case, the solution has abandoned one of its constituents, the sugar, in traversing the liver; whereas this has not taken place in the second instance. He arrives at similar results in the following experiments. Through a small opening in the abdomen of a rabbit, he injects a quantity of the same solution into one of the branches of the portal vein; and into the jugular vein of another rabbit he injects the same quantity of the same solution. It is clear that, in this mode of operating, we cannot have any difference in the absorption, as in both cases we introduce the substances directly into the blood. Nevertheless, we obtain exactly the same result; that is to say, that in the rabbit, in which we injected by the jugular, the sugar has passed into the urine with the ferrocyanide of potassium, and with very great rapidity; whilst in the rabbit injected by the portal vein, the ferrocyanide of potassium alone will have passed into the urine, where one cannot find the least trace of sugar. These experiments are very conclusive. Bernard proves by experiment that starch, taken as food in the intestine by the

influence of the pancreatic juice, becomes converted into sugar; and this passes into the portal vein. That sugar is destroyed by the liver, receives further confirmation, he states, by the facts known in the fattening of cattle. You all know that animals fatten most by the use of food in which starch predominates; that the geese and the ducks, in which the fat livers are artificially produced, are gorged with a *pâté* of maize or other amylaceous food; that the fat formed by an animal is not in proportion with the adipose matter which it takes; that, on the contrary, the animals which only eat fat, far from becoming fat, get lean rapidly. Hereafter it is not only the biliary secretion which we shall have to look upon in the liver; it has two other functions of capital importance—one the production of sugar, which is dependent upon the aliment containing albuminous matters; the other, the production of fat, which is dependent upon the amylaceous and saccharine matters in the food.

"Cane-sugar is never destroyed; it is constantly eliminated by the urine when it is injected directly into the blood; but this sugar, when in the intestine, is in part, at least, transformed into glucose. The latter, on the contrary, injected into the blood, can be destroyed in certain proportions.

"When we prick the mesial line of the floor of the fourth ventricle, in the exact centre of the space between the origins of the auditory and pneumogastric nerves, we produce an exaggeration of the hepatic (saccharine) function, and of the renal secretion; if the puncture be effected a little higher, we very often only produce an augmentation in the quantity of the urine, which then frequently becomes charged with albuminous matters; while, if the puncture be below the indicated point, the discharge of sugar alone is observed, and the urine remains turbid and scanty. Hence it appears that we may distinguish two points, of which the inferior corresponds to the secretion of the liver, and the superior to that of the kidneys. As, however, these two points are very near to one another, it often happens that, if the instrument enters obliquely, they are simultaneously wounded; and the animal's urine not only becomes superabundant, but at the same time saccharine. The urine becomes saccharine in from one to two hours after the operation, but seldom continues for more than a day.

"The secretion of sugar is not under the direct influence of the pneumogastric nerve; for if it be divided before irritating the floor of the fourth ventricle, sugar still appears in the urine. Bernard believes that the influence is transmitted by reflex action through the ganglia of the sympathetic.

"There is a phenomenon which is manifested, for example, when, after fasting a certain time, a great quantity of sugar is taken. The intestinal absorption then proceeds with extreme rapidity. A great quantity of sugar arrives in mass in the liver; the mechanical circulation much prevails over the chemical; the sugar is poured into the general circulation in proportion much greater than occurs in the normal state; and it passes then into the urine, where its short-lived presence can be found for a certain time.

"M. Bernard, after a great many experiments in reference to the subject, has proved that there is a species of election in the excretion of matters which pass out of the organism. Sugar is eliminated in two ways only—by the kidneys, and by the mucous membrane of the stomach. When sugar is injected into the blood of an animal to saturation, and puts it for a time into a state of diabetes, we do not find sugar in the saliva, in the tears, pancreatic juice, bile, nor perspiration; whilst the urine and gastric juice contain it in proportions more or less notable. These results entirely resemble those obtained in diabetic patients. Lehmann states, however, that he has obtained sugar from the saliva of a diabetic. The presence of sugar has been pointed out in the expectoration of diabetics. Bernard admits that sugar can be had in notable quantity in the expectoration. But, he writes, we must not confound the bronchial mucus which these patients, almost always phthisical, in the last stage of the disease expel in abundance, with the salivary secretion properly so called; it is the mucosities formed in the lung which contain the saccharine matter. Nevertheless, this fact is not constant; for M. Rayer has reported to the Society of Biology a case in which the expectoration of a phthisical patient examined by M. Wurtz did not contain sugar. Bernard proves by the following experiments

the statements regarding the election in excretion of matters which pass out of the organism.

"He takes a dog with a parotidean opening, into which he inserts a tube. Nothing flows by this tube, which proves that the secretion is not continuous. By putting in the mouth some vinegar he excites the flow of saliva, which passes out of the tube rapidly in large drops. He next injects into the jugular vein of the animal a solution containing sugar, prussiate of potash, and iodide of potassium. Immediately after this injection the salivary secretion is again excited in the same way. The saliva is received into three glasses. One is examined for sugar, and none is found. The sugar, therefore, does not pass in the saliva. The second is examined for prussiate of potash, and it is not present. The third is found to contain iodide of potassium. This substance then passes immediately into the saliva, whilst the prussiate of potash and the glucose, equally soluble, cannot be found. In the saliva extracted before the injection, none of the substances exist. In the urine of the same animal after the injection the prussiate of potash is found in considerable quantity, and the iodide of potassium in small proportion. As regards the sugar, there is none yet, but we shall find it presently. It requires an hour or more for the sugar to appear in the urine.

"The urine then eliminates all these substances in a manner more or less rapid. The prussiate of potash appears first and the glucose last.

"There is another secretion in which the presence of sugar can be found; this is the gastric. The passage of the sugar into the stomach has surprised most of the observers who have seen long since that when diabetics vomited, although they had eaten nothing but flesh, the vomited matters were saccharine. When it was believed that diabetes proceeded from a perversion of the digestive functions, it was considered that the flesh was changed into sugar in the stomach. But one need not now be mistaken; the flesh is not saccharine. Bernard himself has observed that, in diabetics who vomit fasting, in the vomited matters the presence of sugar could be found. But this has only occurred when the disease is at its greatest intensity; and in all those cases, even in the animals which have been rendered artificially diabetic, it is much more difficult to obtain the passage of glucose into the gastric juice than into the urine.

"The sugar is formed, as we have seen, at the expense of the albuminous substances. In the healthy man it is clear that a part only of these matters is consumed for this purpose. The diabetic who forms much sugar expends a very large quantity of azotized material; the blood is impoverished; and, although the patient eats enormously, he gets thin like a man badly nourished. The liver takes in a manner the ration of the other organs, which undergo a considerable attenuation, because the albuminous elements are transformed into sugar.

"M. Bouchardat has proscribed the use of amylaceous and saccharine matters in the food of diabetics. The facts which Bernard has himself witnessed in the practice of M. Rayer prove clearly the utility of azotized aliment. In the regimen of these patients, writes Bernard, vegetable aliments ought to be forbidden, as it is evident that they augment the functional activity of the liver. You know, also, that they are excitants of the kidneys; that they are much more diuretic than animal matters. Thus all the herbivora pass much more urine than carnivorous animals. In the azotized regimen diabetics have the advantage of food which is not diuretic.

"I have at great length reminded you of M. Bernard's views regarding the formation of sugar in the animal economy. As some of them are of so novel a character, and so little in accordance with the notions formerly held, I have thought it advisable to mention the experiments upon which he founds his opinions. That they will, upon further investigation, be more or less modified, is not improbable; but they have been very generally received by the most distinguished physiologists and pathologists.

"From M. Bernard's investigations, we learn the following facts of importance in reference to the saccharine plan of treating diabetes:—

"1. Sugar may be rationally administered to diabetic patients, inasmuch as

the sugar found in the general circulation is almost always secreted by the liver, and as sugar introduced into the intestinal tube in its passage through the liver is there altered and converted into an emulsive substance, which serves to fatten these patients, and thus to counteract their tendency to emaciate.

"2. Substances which contain glucose—such as honey and fruits, should be given to diabetics in preference to those containing cane-sugar, because the latter is not destroyed when injected into the blood, but is constantly eliminated by the kidneys; whereas glucose can be destroyed in certain proportions.

"3. Cane-sugar would be beneficial to a certain extent; as when taken into the intestine it is in part at least transformed into glucose; but if given in too large proportions to be thus completely transformed, the disease would be probably aggravated by the presence in the blood, and subsequent excretion by the kidneys, of the former variety of sugar.

"4. The glucose should be given in moderate quantities at a time, and frequently, rather than in large quantities at long intervals; because, when much sugar is taken fasting, it is absorbed too quickly to admit of its complete destruction in the liver, and it passes into the general circulation, whence it is eliminated in the urine."—*British Medical Journal*, May 8, 1858.

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22. *Researches on Gout.*—Dr. A. Garrod communicated to the Royal Medical and Chirurgical Society (June 8th, 1858) the result of his researches on gout. The author divided his communication into two parts. In the first, were detailed the results of his analyses of the urine in the different forms of gout; the second was devoted to the consideration of the influence of the different forms of colchicum upon the urinary secretion. After describing the method of analysis employed in arriving at his results, and speaking of the opinions usually held upon the subject of the urine in gout, Dr. Garrod proceeded with the first part of his paper, the cases in which he subdivided into three classes.

1st Class.—Cases of acute gout, occurring in patients most of whom, in the intervals of the attacks, enjoyed pretty good health. About thirty analyses for uric acid, made on the twenty-four hours' urine of several different patients, were detailed, and a few for the determination of urea; and from these, the following deductions were drawn: In the earlier stages of acute gout, the urine, for the most part, is small in quantity, and the uric acid, measured by the twenty-four hours' secretion, diminished; that this acid is thrown out in much larger quantities as the disease becomes mitigated, and that these amounts, even above the patient's daily average, may be passed, forming sometimes critical discharges; and, lastly, the acid again becomes lessened, although not to the extent which occurs either just before or at the commencement of an attack. That the urea is usually thrown out in about the normal quantities, although its free elimination by the kidneys is often somewhat impeded, and, in consequence, the blood contains a small excess, which may possibly explain, in some manner, one peculiarity of gouty inflammation when it attacks superficial parts, namely, the presence of œdema and the subsequent desquamation of the cuticle. That occasionally a trace of albumen exists in the urine, but very seldom, compared with its occurrence in the chronic forms of the affection. The 2d class included cases of chronic gout, the majority of which were not suffering from any urgent symptoms, but many were afflicted with some of the sequelæ of the affection, as shown by the concretions of urate of soda upon different parts of the body, and the stiffened condition of the joints. More than sixty analyses for uric acid were given in this class, made upon the day's urine of fourteen different individuals, and numerous determinations of urea were also detailed. The deductions from the observations may be thus summed up: The urine in chronic gout is usually rather pale in colour, below the average tint in the healthy subject, of low density, and increased in quantity. The amount of urea, except in extreme cases, the same as in health (due account being taken of the diet of the patient at the time the urine passed). The uric acid was very much diminished indeed, and subject to excretion in very varied quantities at different times; and, lastly, the presence of a small amount of albumen is exceedingly frequent. Deposits in the urine are not of common occurrence

in these subjects; but they occasionally occur on the cooling of the fluid, sometimes in the form of urate of soda or ammonia, at other times crystallized and more or less coloured rhombs of uric acid. Class 3.—Urine of individuals who had suffered more or less frequently from attacks of acute gout, of varying degrees of intensity, examined at the time of complete freedom from any symptoms of the disease. Several determinations were made on the urine of six individuals, and the following results arrived at: In no one of the six patients' urine did the amount of uric acid reach the quantity usually considered to be the average in health; in most of them it was far below, and it would appear that the kidneys in such individuals are apt to lose some of their excretory power for this body, a circumstance which must necessarily render the blood impure, and account for the liability which such patients possess to periodic visitations of this malady, and the great difficulty of effecting a radical cure of the disease.

Part 2.—Devoted to an examination of the influence of colchicum upon the urine. The usual opinions held by different authorities, as Christison, Chelius, etc., upon the modus operandi of this drug, were first related, and many of the analyses brought forward in their support were shown to be very fallacious, the error arising not from any fault in the analyses themselves, but from small specimens of urine, passed at particular times of the day, being examined, and no account taken of the twenty-four hours' elimination. Between fifty and sixty analyses, showing the amount of the uric acid eliminated, were given, together with numerous determinations of the urea. The results of these observations on the action of colchicum were as follows: In one case, where no gouty affection existed, and no febrile disturbance was present, colchicum appeared to have the effect of slightly diminishing the quantity of urine, and likewise of diminishing somewhat the excretion of uric acid. In a second case, similar to the above, the influence of the medicine was notably to diminish the quantity of urine, the uric acid being slightly increased, but the increase was less than a quarter of a grain per diem. In case 3, a gouty patient recovering from an acute attack, the uric acid was somewhat increased during the administration of colchicum, but not in a greater degree than frequently occurs under such circumstances when no medicine is given. In case 4, both the urine and the uric acid were diminished by the influence of the drug; and so on for the other cases. The author considered, as the result of his analyses, 1st. That there is no evidence to prove that colchicum produces its effects upon the system by causing the kidneys to excrete an increased amount of uric acid, but that, in fact, the reverse would seen to hold good. 2d. That colchicum is not always a diuretic, but often diminishes the renal secretion, especially when its action is exerted upon the alimentary canal. 3d. That colchicum has no marked influence on the excretion of urea. An appendix to the paper contained the results of seventy-two analyses, performed on consecutive days, of the urine of a gouty patient; and the results exemplified, in a marked manner, the peculiar mode in which uric acid is frequently eliminated in such cases, and also tended to confirm the conclusions arrived at with respect to the action of colchicum upon the excretion of this principle.—*Med. Times and Gaz.*, June 26, 1858.

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23. *Abdominal Typhus.*—From 100 dissections, from upwards of 1000 cases, Dr. Lebert, of Zurich, deduces the following results:—

Intestinal affection is not always present, and bears no relation to the intensity of the disease—appearing rather to be a co-effect of the fever than sufficient for its explanation. In fatal cases, the intestinal affection has not only formed a slough or sore, but has even frequently ended in resolution; and it is not always easy to discover whether the intestinal affection has entirely failed, or whether it has only been completely resolved. The intestinal affection of typhus bears a very strong resemblance to that of cholera, only in the latter there is usually more serous infiltration; it consists entirely in an increased formation of the normal cell-elements, and there is no such thing, as far as our author has seen, as a specific typhus exudation; while so many other diseases which have a typhoid condition, as pyæmia, severe icterus, meningitis cerebro-spinalis, and the grave cases of acute exanthemata, are accompanied by swell-

ing of the intestinal glands and the spleen, that we are involuntarily led to the conclusion, that there is in many infectious diseases a peculiar connection between the pathological poisoning and those glands whose office it is to prepare the blood elements; and therefore the intestinal alterations in typhus have a much deeper and more general signification than is usually believed. From the eighth to the eleventh day, the cellular infiltration of the mesenteric glands, also that of the isolated and agminated glands, is very distinct; they are soft and swollen, as are also the glands of the large intestine. Very soon erosions, ulcerations, and other anatomical alterations attendant on intestinal catarrh, occur, which are most frequently observed from the eleventh to the fifteenth day; and in this very period, also, the phenomena of resolution are often observed. But the intestinal alterations of typhus are very far from being bound down to typical phases; and there is even an occasional disproportion between the extent of the disease in the isolated and agminated glands, the latter being peculiarly its seat, while it is often entirely wanting in the former. In the course of the third week the intestinal alterations are at their height; in one case only, pus was found in the mesenteric glands, partly infiltrated, partly in the fluid state (as an abscess). In the fourth week the ulceration generally continues, the catarrh of the colon and ileum already retrogressive; the marrow-like infiltration of the mesenteric glands at its height, and partly retrograde. One man, however, dead on the twenty-fourth day, had only a few agminated glands slightly swollen, and the seat of superficial ulceration. Another case, dead after the twenty-eighth day, showed undeniable symptoms of resolution without ulceration; the mesenteric glands were partly swollen, partly retrograde; Peyer's patches of a slaty hue, firm and granular, partly shrivelled, and only one small ulcer in the processus vermiformis. Tendency to cicatrization was only once observed on the twenty-fourth day. This stage occurs generally much later than authors have supposed. In the fifth week we have for the first time a grayish coloration of the edges of the ulcers, which now begin to fine down, but show only exceptionally a tendency to reparation. In this week the author observed three cases of resolution without ulceration, in only one of which was there trifling ulceration. In one case, dead after the thirtieth day, Peyer's patches were still slightly swollen, grayish yellow, covered with a few small brown ecchymotic spots; the neighbouring mucous membrane hyperæmic; the spleen large and soft; the mesenteric glands enlarged. Another case died on the thirty-fifth day; the spleen was still large and soft; most of Peyer's patches had a slaty-gray appearance; and only a few isolated glands showed traces of cicatrized ulcers. During this week the mesenteric glands are generally partly diminished in size, partly soft and swollen, and also of a slaty hue, particularly on the surface, whilst the interior is of a dull-yellow, cheesy aspect, as of shrivelled nuclei, already undergoing molecular disintegration; these disintegrated elements are probably subsequently absorbed, and the glands return to their normal state. During the sixth week, reparation proper commences; the edges of the ulcerations long retain their slaty hue, and the different portions of the intestinal canal are unequally advanced; the mesenteric glands are by this time restored to their normal state. In this week also the author found a case of undeniable resolution without trace of ulceration; Peyer's glands being slaty in hue, partly reticulated, partly granular and shrivelled. In the seventh week complete resolution is the normal condition; yet our author found three cases in which, although the edges of the ulcers were slate-coloured, their basis showed no trace of healing. Such are the cases in which tardy perforation occurs, and those also in which the patients sometimes die in the third month from sequelæ. Once in the eleventh week, and another time after three and a half months, our author found cicatrization uncommenced; in both cases a diphtheritic diarrhœa, accompanied by numerous ulcerations in the colon, was present; our author supposes that fatty degeneration of the textural elements of the ulceration is the cause of its not healing. He mentions as very remarkable two cases, one dead in the ninth week, the other in the eleventh, in both of which distinct villous granulations (Zotten) were produced on the surface of the sore, while in every other case the cicatrix had a striped fibroid appearance, with scattered gray pigment

granules and corpuscles; such cicatrices were also distinctly vascular. As one-fifth of our author's recorded observations comprised cases in which the intestinal alterations failed entirely, were very trifling, or ended in resolution, bearing no relation to the severity of the disease, which severity bore also no relative connection to the typhoid diarrhœa, so he concludes that the distinction between abdominal typhus and exanthematic typhus without intestinal alteration cannot be strictly defined; much must still be left for future observers. With respect to the other textures and organs, our author found, 1st, an important relative frequency of peritonitis in ileo-typhus; nine cases of perforative, and seven of simple peritonitis, in 100 deaths; besides numerous unmistakable recoveries from similar accidents, extending in time from the seventh day to the fourth month, being most frequent in the second month. The splenic enlargement, more or less constantly present, bore no relation to the intensity of the typhous process. Splenic softening, depending on hyperæmia and increased cell-formation, was a much more regular concomitant. The liver, in more than one-fifth of all cases observed, was more or less fatty; and in every case analyzed by Professor Städeler, leucin and tyrosin were found, while, so far as known to our author, sugar has not been found in a typhous liver; so he considers it extremely probable that alterations of the liver not only exist during the typhous process, but probably have an intimate relation to it. The kidneys in the first two weeks were somewhat swollen and hyperæmic; later in the disease the kidneys were twelve times found to present more serious alteration; the size normal, or but slighly increased; the cortical substance decolourized, with here and there vascular points and stripes, the decolorization intruded partly on the pyramids; and here there was found, first, on the fourteenth day, generally about the fourth week, increased cell-formation in the convoluted ducts, mixed with a fine granular, albuminous infiltration, which subsequently seemed to undergo fatty degeneration; in most of these cases no albumen had been detected in the urine during life. A few cases of ileo-typhus complicated with Bright's disease recovered. The heart in the later stages of typhus becomes flabby, thin and pale, and frequently fatty, proving thus a probable source of death in protracted cases. Ulceration of the larynx, observed by Rokitansky, Vogel, and Rheiner, were never seen at Zurich; pleurisy was present eight times; once the typhus commenced with pleurisy, which at death, on the forty-sixth day, was so far healed that only adhesions and increased injection remained. Occurring at an early period, it generally terminated favourably; and even as sequela, which it most frequently was, it was only then very serious when double, or the patient much reduced. The most frequent alteration of the lung was hyperæmia, with dark red, violet, or a more brownish colour, compact appearance, and a smooth cut surface, with distinct collapse of the lung-cells. This condition has been termed carnification or splenization when extensive, and atalektasis when more circumscribed. The author observed this condition twenty-one times diffuse and lobar, and six times scattered and lobular. The diffuse form is much more common, if to it we add those numerous cases in which hypostases showed a tendency to pass into carnification. The lobular atalektasis had a direct relation to the bronchitic affection, and was most frequent when that was severe.

Recent emphysema is also by no means an infrequent concomitant of typhus. Lebert observed it thirteen times, and connects it with intense capillary bronchitis. Pneumonia was a rare complication, occurring but five times—twice lobular, and three times general and lobar; apoplexy of the lung occurred eight times. Catarrh and bronchitis, with their sequelæ hypostasis and carnification, seem to belong to the typhous process; while laryngitis, pleurisy, pneumonia, etc., are only accidental complications or sequelæ, and tuberculosis and typhus seem to a certain extent to antagonize one another. The nervous centres afford no anatomical explanation of the serious cerebral symptoms so often occurring in ileo-typhus. Meningeal hyperæmia, and œdema under the arachnoid, are very frequent. Lebert found, however, only thrice increase of the ventricular fluid, and also three times effusion of blood in the membranes, and twice effusion of blood in the brain substance itself; once there was men-

ingitis with sero-purulent exudation on the surface of the brain.—*Ed. Med. Journ.*, Aug., 1858, from *Prager Vierteljahrschrift, f. d. Prak. Heilk.*, 1858.

24. *Incubation of Measles.*—The period of incubation of measles has been variously estimated. Dr. KERSCHENSTEINER, Assistant in the Munich Hospital for Children, has endeavoured to fix it by observing the day on which the eruption appeared on the second affected child of a family, reckoning from the day it appeared on the first; and only such cases were collected and tabulated as could be clearly shown to have no communication with any other measle patients. Of 37 cases so collected, the eruption appeared in 34 between the 10th and 12th day.—*Edin. Medical Journal*, June, 1858, from *Bayer. œrztl. Intell.*

25. *Inversion of the Body for the Relief of the Symptoms produced by the Passage of a Renal Calculus along the Ureter.*—Prof. SIMPSON exhibited to the Edinburgh Medico-Chirurgical Society (May 5, 1858) a small oblong renal calculus, from a patient who had passed them at different times, and always suffered terribly during their transit from the kidney to the bladder. This patient had been now twice relieved of the agonizing symptoms accompanying the passage of the calculus by inversion of the body. Prof. S. had subjected her to this treatment in consequence of his belief that the passing calculus, falling down into, and becoming impacted in the ureter, acted at its point of arrestment as a pea-valve, and by its accumulating the urine above, or in the pelvis of the kidney and higher portion of the ureter, led to the accompanying distress by the morbid distension of these portions of the urinary ducts. When the body was inverted, and the affected side manipulated, the calculus probably fell backward, and consequently upwards, by its own gravity. At all events, whatever be the explanation, the practice in this and in one other case had immediately relieved the patient. He had seen partial relief from changed position in one case also of gallstones. Position was a more important therapeutical agent than was generally supposed, not only in medicine, but also in surgery and therapeutics. Several years ago—and shortly after the famous case of Mr. Brunel—Dr. S. saw, with Dr. Patterson and Dr. James Duncan, a case in which a shilling passed into the windpipe, and where upon inversion of the patient the shilling fell back into his mouth, thus saving the patient from the operation of tracheotomy. Dr. Duncan had published a full account of the case. In prolapsus of the umbilical cord in labour, the mere gravity of the cord in the usual supine position of the patient was no doubt one great cause of the difficulty of retaining it in utero, above the head or presenting part of the child, when once returned. But some late cases and observations proved that the return and retention of the cord could be effected with comparative facility, if the aid of position was called in, and the patient was placed upon her face, or upon her hands and knees, till the presenting part filled the brim of the pelvis; for in this prone position the cord gravitated toward the fundus uteri, instead of towards the os.—*Edinburgh Medical Journal*, July, 1858.

26. *The Diagnosis of Deafness.* By Dr. ERHARD, of Berlin.—By careful observation of many cases of normal hearing, or of one-sided deafness, the author came to the conclusion that almost every possible alteration of the external passages or of the tympanum, if not excessive, might coincide with perfect audition. He even observed a case of congenital absence of the membrana tympani, together with that of the malleus and incus, without perceptible influence on the power of hearing. He was, therefore, led to seek for new and better diagnostic marks in the phenomena of audition itself, as manifested in the deaf. With this view he employed a series of watches, of varying intensity of stroke. For normal hearing, four conditions are necessary: 1st. Complete integrity of the acoustic apparatus; 2d. Complete integrity of the nervus acusticus, from its central origin to its finest peripheral branch on the scala tympani; 3d. Complete integrity of the organic dynamic relations of the auditory apparatus; 4th. Complete integrity of the sensorium. Any alteration in these conditions produces a corresponding alteration in the power of hearing.

As every material conducts sound more or less perfectly according to

acoustic laws, so the impulse of the sound wave may reach the acoustic nerve in a variety of ways; and not only through the tympanic cavity, but also through the bones of the head generally. Therefore, if we hermetically close our ears, and press an ordinary watch firmly on any of the bones of the head, its tic-tac will be heard clear and distinct; and this holds generally good from youth to middle age. Above forty, this fact is very much modified, according to acoustic laws, from alteration in the bones affecting the homogeneousness of their texture. If we experiment in a similar manner on deaf persons, we shall find that some who hear the tic of a watch at a tolerable distance, hear little or nothing through the bones of the head, the meatus being stopped; while others, who cannot hear a watch at all in the ordinary way, hear it clearly and distinctly through the bones of the head. In all such cases, the auditory nerve must be sound, and the obstacle to hearing must lie in some acoustic failing in the conducting apparatus external to the labyrinth. The converse of this, however, does not hold. Those who cannot hear the tic of the watch through the bones of the head, have not of necessity unsound auditory nerves, but may be in one of two conditions: 1st. The auditory nerve may be partially or totally paralyzed by organic alterations affecting its origin, course, or expansion on the scala tympani; 2d. The auditory nerve may be perfect in structure and power, but fettered by some obstacle, and when this is removed, hearing at once returns. The author has observed complete deafness of this character occasionally to depend on the pressure of cerumen on the tympanum, either as a reflex phenomenon of that pressure, or perhaps the pressure itself mechanically forces the tympanum inwards, and with it the stapes, so compressing the fluid of the labyrinth as to render temporarily impossible those vibrations of the zonula membranacea of the cochlea upon which hearing depends. This acoustic test loses somewhat of its value in cases of deafness on one side alone; as, though the sense of hearing be completely lost on one side, the patient may yet, *with the other ear*, hear the tic of a watch in contact with the mastoid process of the deaf side, provided the conducting power of the bones of the head be very good; yet even this deception may be avoided, by remembering that, of the two great classes into which deaf patients may be divided—the *acoustic* and the *nervous*—the first will always be able to hear the tic of a watch through the skull bones, the latter never; and to this, adding the following corollary, that, *as every substance conducts sound, though in different degrees, therefore no acoustic deafness can ever surpass a fixed degree determinable by experiment.*

The author asserts that he has never seen a case of acoustic deafness, in which his watch, No. 1, was heard through the skull bones; but that No. 2 was also heard at least three inches, and No. 3[1] ten inches, from the entrance of the meatus. Adhesion of the eyelids causes blindness with a perfect optic nerve, because they are impenetrable by the light; but closure of the external meatus, absence of the tympanum or Eustachian tube, cannot of themselves produce perfect deafness, because every material conducts sound. When, therefore, we find a case of deafness in which, though watch No. 1 is heard through the skull bones, watch No. 2 is not heard in front of the meatus, and No. 3 only at a scarcely appreciable distance, we may conclude that the deafness is nervous, and that the tic of the watch is conducted by the bones to the sound ear, and heard by it. The degree of nervous deafness may vary with its cause; and we may determine this degree by a careful appreciation of the manner in which a series of watches, of varying intensity, are heard through the skull bones, and the intensity of the stroke necessary to excite the auditory nerve.

In all these experiments the external meatus of both ears must be completely closed, which the patient can do by oiling his little fingers, and pressing them well in. The watch must be *firmly* pressed on the bones; and the point selected may be varied, as, from various causes, the conducting power of the bone is

[1] The tic of No. 1 could be clearly heard about four feet from the meatus; that of No. 2, about forty feet. No. 3 was the striking of a repeater, and could be heard at about eighty feet distance by normal ears.

often better at one point than another. One or two watches, not wound and not going, should be also kept for trial, as *they too are sometimes heard.*

Numerous experiments can determine the distance at which every different watch is audible, both by normal ears and by deaf ones; and this does not vary unless from some co-existent modifying circumstances—*e. g.*, in simple deafness a case can never occur where a watch of ten feet intensity is that first heard through the bones, and yet it may be heard more than ten feet off. Nor can a watch of ten feet intensity be heard through the bones, and yet the same watch be heard only one foot from the meatus. In the first case, the conducting power of the bones, and not the nerve, is at fault; the second case must be complicated by some acoustic obstacle. The author regards hearing through the teeth as more properly a species of feeling, and of no diagnostic value.

The peculiar phenomenon manifested by deaf people of hearing better in a noise, as by a waterfall, in a concert, a mill, etc., for some time puzzled our author, till he bethought himself of testing the truth of it with his watch No. 2 in a very noisy drosky, when he found that, although normally he could hear the watch at a distance of 500 inches, now he could only hear it at a disance of six inches; while his deaf patients, wholly unaffected by the rumble, heard just so well as formerly, but no better. That deaf people hear better in a noise, he therefore considers to be untrue; and they only appear to do so, because we unconsciously elevate our voice to suit our own hearing. No phenomenon is apparently more general among deaf people than alternations in the power of hearing—having good and bad days, as it is termed; yet experiment shows that this is really true only in about 20 per cent.; the rest only deceive themselves; and the reason they think so is, that the nervous power being in us all more or less under the influence of external circumstances, particularly the weather, deaf people remark every trifling change in a faculty of which they possess so little, while normal ears, hearing in general more than they require, are not so sensitive to a slight diminution of power. Of those whose hearing really alternates, there are two great classes: 1st. Those deaf from acoustic causes, in whom the varying audition can be easily explained by physical causes; and 2d. Those peculiar cases of nervous deafness which seem inexplicable—like that young man mentioned by Abercrombie, who heard normally only when bent, and was quite deaf whenever he stood upright; or like three cases mentioned by the author, in whom perfect hearing was present when from any cause the external circulation was excited and transpiration increased, and who became deaf as they cooled down again.—*Edinburgh Medical Journal*, June, 1858, from *Prager Viertejahrschrift f. d. prak. Heilkunde*, 3er Bd. 1857.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

27. *Tetanus successfully treated with Extract of Indian Hemp.*—Mr. E. W. Skues relates (*Edinburgh Medical Journal*, April, 1858) a case of this. The subject of it was a healthy girl at Honduras, nine years of age, who was suddenly seized, April 9, 1857, with rigidity of the right arm and leg, accompanied by pain, particularly in the arm. When Mr. S. first saw her, both leg and arm were stiff—the hand flexed on the forearm, the knee semi-flexed, and the right foot turned inwards; the pulse 80, soft; the tongue white; bowels open; the countenance cheerful; and there was no difficulty in opening the mouth.

The history given of the case was—that, a month previously, she fell and cut her right wrist on some broken glass, and the wound healed quickly, without any bad symptom; that, a few days previous to her illness, she complained of pain in her back, but of no uneasiness in the cicatrix.

There was an irregularly triangular cicatrix on the ulnar border of the right wrist, over the tendon of the flexor carpi ulnaris.

A purgative was ordered, and the next day she was better. Little change

occurred until the fifth day, when some difficulty of opening the mouth was observed; and by the sixth day the symptoms were well marked. There were frequent attacks of opisthotonos; the pulse was rapid and weak; the countenance was indicative of distress; and the mouth could only be partly opened with difficulty.

In consultation with Dr. Young, the public medical officer of the settlement, who kindly favoured me with his valuable advice and assistance, it was determined to use Indian hemp.

The medicine was first given in quarter grain, and afterwards in two grain doses, repeated hourly, until narcotism was induced. Strong soup, wine, and arrowroot were freely given.

The medicine produced marked relief, and was used freely—the quantity given daily varying from four to eighteen grains, and the child was kept almost constantly narcotized. The attacks of tetanic spasm became gradually less severe; and after twelve days the medicine was discontinued, and the child recovered perfectly—though, after all symptoms of the general disease had disappeared, some stiffness of the arm remained for eight or ten days.

The medicine was given dissolved in spirit, each dose being mixed with water at the time of administration. It appeared to act as a direct sedative, creating very little excitement, and did not induce constipation.

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28. *Affections of the Joints following Operations on the Genito-Urinary Organs.* By Wm. Coulson, Esq.—It is well known that certain affections of the genito-urinary organs are occasionally followed by severe disease of the joints. In the following remarks, I have endeavoured to explain the circumstances under which these secondary attacks occur. The injuries and diseases of the genito-urinary organs with which they may be connected are various. They may follow lithotomy and operations on the urethra. They may follow lithotrity; the introduction of instruments into the bladder; irritation of the urethra from the passage of foreign bodies, and gonorrhœal abscess, with ulceration of the urethra. In fact, any injury or disease which gives rise to primary suppuration in or about the genito-urinary organs of the male, may be followed by secondary articular disease. Besides these, there are joint affections, which appear to be excited by mere irritation of the same parts without suppuration.

The articular affections from the causes above mentioned present several peculiarities worthy of notice. They are sometimes purulent, sometimes non-purulent; and this distinction is well marked, the two varieties being seldom mixed in the same case. The attack of the joint sets in very soon after the appearance of constitutional symptoms. Thus it frequently happens that the joints begin to swell on the first or second day after the rigors and fever. The secondary deposits are often confined to the joints and muscles, and do not extend to the principal viscera. Notwithstanding the apparent limitation of the general disease, death ensues rapidly after the first appearance of the constitutional symptoms—on the fourth, sixth, tenth, and twelfth days.

On the other hand, many of these cases, though extremely severe, terminate by recovery of the patient; yet the joints have been extensively injured, as is shown by the anchylosis which ensues.

The cases may be distinguished into two kinds. In one, there are severe constitutional symptoms, partaking more or less of the characters of purulent infection, and followed by secondary deposits of pus. In other cases, the general symptoms are less severe, often chronic; and the joint affection is not of a purulent kind. M. Velpeau has described a third class of cases, which he ascribes to poisoning of the blood by urine of a bad quality.

The purulent affection of the joints generally sets in under the following circumstances: a slight injury has been inflicted on the genito-urinary organs, or the patient may have irritated the urethra by attempting to pass a catheter himself. Severe rigors, followed by fever of a nervous kind, ensues; and in one or two days the joints are attacked by pain and swelling. The tumefaction may increase to a considerable size in a few hours, the joint becoming red and hot. The knee, shoulder, ankles, and elbow, are the joints most commonly affected. Some of these cases terminate fatally in a fortnight; others again are chronic:

even in these the joint disease may commence as early as the second day. There are at first rigors, followed by fever. On the next day, severe pain and swelling attack some of the joints; the periarticular tissue becomes the seat of suppuration; the pus is evacuated artificially; the patient remains in a low, depressed, and doubtful state, for several weeks; but at length recovers, probably with anchylosis of some of the affected joints.

The morbid changes in these cases are various. They are usually inflammatory. The synovial membrane is injected, and sometimes lined with false membrane, and the joint contains pus; but ulceration of the cartilages is not common. In other cases, the lesions are confined to the periarticular tissues, which are infiltrated with pus; or the purulent inflammation may occupy the interior as well as the exterior of the joint, although the capsular ligament has nowhere given way. In a few cases the joint has been the seat of simple inflammation, and does not contain any pus; and matter may be discovered in joints which did not seem during life to be attacked. It is very rare to find pus in a joint which appeared healthy up to the time of death, but this has occurred in one case.

In chronic cases the periarticular swelling often contains pus, and the cartilages are softened or eroded. Indeed, we may infer that the cartilages and even ligaments have been extensively diseased from the anchylosis which ensues.

In the milder form of the disease, the joints become painful and swollen; but these symptoms are not severe, and the skin is not red. In a few days the affection may subside, and pass to another joint; hence this form is often mistaken for rheumatism. The effused fluid is sometimes purulent; in the majority of cases, we may infer that the effusion is serous, from the manner in which it disappears. I should observe that many of the acute and some of the chronic cases are accompanied by intermuscular abscesses in the limbs.

The nature of the articular affections just described is not well understood. M. Velpeau, as I have said, attributes them to poisoning by urine. M. Civiale confesses that he is unable to explain how they are produced. For my own part, I am inclined to attribute the severe cases accompanied by constitutional symptoms, and followed by purulent deposits, to the influence of pus-poisoning.

The analogy of these cases with many which occur in puerperal cases is evident. The absence of primary suppuration may be considered as a fatal objection; but to this I would answer, that the *fons et origomali*, the primary secretion of pus, which poisons the blood, has been generally found when carefully sought for. Thus I have found small abscesses along the urethra, produced by the frequent passage of instruments for stricture. I have also found inflammation of the prostatic veins. In other cases, small primary abscesses have been found in the prostate or wall of the bladder, or suppurative inflammation in the cellular tissue of the scrotum. All these are sufficient causes; and if the genito-urinary organs were carefully examined in these fatal cases, it seems to me highly probable that the origin of the disease would be more frequently discovered.

The forcible use of instruments and the passage of foreign bodies may fairly be inferred to have produced some laceration of the urethra, followed by suppuration or abscesses. There are, however, cases in which irritation of the urethra is followed by a non-purulent inflammation of the joints. Here we must either suppose that irritation of the canal has given rise to abscess in some neighbouring part—an event quite possible, though not proved by dissection; or we must confess our inability to explain the nature of such cases, and class them with gonorrhœal rheumatism, to which they bear a striking resemblance.—*British Med. Journ.*, Feb. 6, 1858.

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29. *Medical Treatment and Diagnosis of Stone in the Bladder.*—Dr. A. H. Hassall, in an article in a recent No. of the *Lancet* (Aug. 21), makes some valuable practical remarks on these subjects.

"There is," he observes, "for a long period prior to the formation of a stone, a very sensible and obvious deposit in the urine; for it is only those substances, be it remembered, which are but sparingly soluble in the urine, which ever form calculus.

"Now this deposit, in the great majority of cases, although observed by the patient, is allowed to continue, and to go on unchecked, without his seeking for medical advice; and it is only when symptoms of stone have presented themselves that he is led to seek for aid; but then great mischief is already done, and the physician is called upon to treat not only the condition of the urine which has occasioned the stone, but has to endeavour to act, by his remedies, upon the stone itself. This is generally regarded as a task so difficult that the physician usually abandons it in despair, and the case is handed over to the surgeon, the stone being removed ordinarily by the extreme and heroic remedy of vivisection and forcible extraction.

"In ordinary cases, then, the physician and the patient are alike ignorant of the impending calamity; or, if they entertain any suspicion that the condition of the urine is one likely to tend to the formation of stone, they do not usually attach sufficient importance to it to make it the subject of active and immediate treatment. The presence of a stone is usually first determined by the surgeon. Again, when even the calculus is discovered, the physician is rarely called upon to put into operation the resources of his art; but the treatment generally pursued is strictly surgical.

"Now, I contend that the physician ought to take a prominent position in the treatment of stone. The conditions of the urine leading to calculus are chemical, physiological, and pathological, for all which reasons medical treatment is required.

"Further, the medical treatment pursued should not be limited to the period of the actual presence of a stone; for then, although more can be accomplished medically than is usually supposed, the best opportunity for medical treatment has passed. In fact, the treatment should be anticipative and preventive, and not merely palliative or curative.

"That is, every person whose urine contains an habitual and persistent deposit should seek medical advice, with a view to the correction of that non-natural condition of the urine which predisposes to the formation of calculus.

"The particular nature of the treatment demanded is determined, of course, by the nature and composition of the deposit, and need not here be described; that for persistent deposits of uric acid, the urates and cystine, has already been fully detailed in my Lectures, published in *The Lancet* for the first half of the current year. We would, in this place, limit the observations we have to make to some few general particulars relating to the treatment of stone itself when actually formed, and first we would treat of solvent, and especially alkaline remedies.

"These remedies, as ordinarily employed, are not exhibited to anything like the extent to which they ought to be given. As usually prescribed, they are administered in doses of from ten, twenty, to, at the most, thirty grains two or three times a day.

"This fact has been forced particularly upon my attention by the analysis of a quack remedy, called *constitution water*, and which has acquired some celebrity in the treatment of some forms of stone. It consists of impure carbonate of potash, and the dose is the eighth part of a bottle, about the size of a wine bottle, four doses to be taken daily, equal to about 184 grains, or upwards of three drachms of carbonate of potash, a quantity which, in some cases, may be greatly exceeded, with advantage.

"Now, the doses of the other alkalies, alkaline carbonates, citrates, acetates, and tartrates, and, indeed, of nearly all the solvent remedies employed in the treatment of stone, may be increased in like proportion, and with similar advantage.

"Another very important deficiency in the present mode of treating stone is, that the remedies resorted to, being usually only administered by the mouth, are conveyed to the stone in the bladder by the circuitous route of the circulation; in the blood, of course these remedies become much diluted, so that they reach the bladder in a greatly weakened form. Again, administered freely, alkaline remedies are apt to disorder the general health, modifying, as they do, so materially, the vital and physical properties of the blood, as well as the various fluids secreted from it.

"Now, these disadvantages may be obviated by employing the solvent remedies, used in the form of *injection;* these should not only be strong and frequently repeated, but they should be retained in the bladder as long as possible, or should be injected in a continuous stream.

"I am, of course, aware that injections have been tried occasionally in the treatment of stone, with more or less success; but they are not resorted to nearly so frequently as they ought to be, nor have they been employed in the manner most conducive to success.

"I would not be understood as recommending the use of vesical injections to the exclusion of constitutional treatment; this, of course, should be persevered in as well.

"Again, in some cases, medical may be combined with surgical treatment; that is, the stone having been reduced to fragments by the lithotrite, the solution of the fragments should be attempted by the employment of suitable remedies, both through the medium of the constitution and locally by injection.

"The conditions of the urine tending to the production of stone which call for treatment are those in which that fluid contains persistent deposits of uric acid, urates, oxalate of lime, cystine, and the earthy phosphates. The calculi ordinarily met with are composed entirely or in part of one or other of these compounds; those composed of uric oxide, silicic acid, and carbonate of lime, are of such rare occurrence that it is scarcely necessary to take them into consideration at all.

"The following figures show the relative frequency of the occurrence of the calculi most commonly met with:—

"Of 1000 calculi, the composition of which has been ascertained, 372 consisted of *uric acid,* alone, or mixed with small quantities of the urates and oxalate or phosphate of lime; 253 of the *earthy phosphates,* chiefly fusible calculi; 233 of varying layers of *uric acid, oxalate of lime,* and *earthy phosphates;* 142 of *oxalate of lime.*

"The urinary deposits and calculi most readily acted upon by solvent remedies are the several earthy phosphates and cystine; and, therefore, it is in these cases especially that the greatest amount of success is to be anticipated from the treatment here recommended.

"I have now a few remarks to make on the subject of the *diagnosis* of calculi.

"In general, but few attempts are made by the surgeon to determine, either during the existence of a calculus or prior to an operation, the chemical composition of the calculus, and yet the microscope affords a ready and satisfactory means by which this object may generally be accomplished. Thus the composition of the stone may frequently be determined, with considerable accuracy, by ascertaining, by means of the microscope, the ordinary deposit or deposits occurring in several consecutive samples of the same urine. The determination of the composition of the calculus is not, indeed, often a matter of much importance to the surgeon, who is about to remove the stone by operation; but to the physician, proposing to treat the case medically, it is a point of the utmost moment, because it is only upon this knowledge that the proper and exact line of treatment to be pursued can be based. There is yet another way in which the composition of calculi may be determined, namely, by a chemical examination of the fragments usually passed after the operation of crushing by the lithotrite."

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30. *Fracture through the Trochanters of the Thigh-Bone.* By JAMES SYME, Esq., Prof. of Surg.—George T., æt. 23, recommended by Dr. Anderson, of Selkirk, was admitted into the hospital under my care, on the 15th of January last, suffering from an injury which had been caused two days before, by a sack of flour falling with great force upon his left hip. I found him lying in bed, with the injured limb shortened, the trochanter major higher up, and more prominent than natural, and the knee turned over the sound one; in short, presenting all the characters of dislocation upwards and backwards. But, as a moderate degree of extension restored the proper aspect, and did so only while it continued in operation, I concluded that the injury was a fracture through the

trochanters, in that peculiar direction which the late Mr. Guthrie had the merit of showing might cause eversion of the limb, and of which I placed on record soon after the publication of his paper, another case confirming by the evidence of dissection the correctness of this explanation.

Previously to Mr. Guthrie's observation, there was much diversity of professional opinion on this subject, and the most eminent surgical authorities were completely at variance with regard to it. Thus, while Paré and Petit had recorded particular examples of the fractured limb being inverted, Louis and Sabatier denied that such a condition ever occurred. Boyer declared that he had neither met with it, nor could imagine the possibility of its occurrence; and Desault, on the other hand, calculated its frequency as being in the proportion of one to four of the cases in which the toes are everted. The causes of eversion being the weight of the limb tending in that direction, as may be seen in a dead body, aided by action of the muscles, especially the flexors of the knee, the iliacus internus and psoas magnus, and the rotators passing from the pelvis to the trochanter major, while the principal or almost sole counteracting force lies in the anterior portion of the two smaller glutæi muscles inserted into the forepart of the trochanter major, turning outwards of the limb should certainly be expected as the consequence of this fracture. But it was found by Mr. Guthrie, in examining the body of a patient, who had presented the unusual condition of inversion, that the fracture had detached the posterior part of the trochanter major, together with the trochanter minor, and left the anterior part of the former process connected with the shaft. Precisely the same state of things existed in the case that fell under my own observation, as may be seen from the illustration appended to its history.[1]

It is worthy of notice, as Desault remarked, that the muscles which effect rotation outwards must be relaxed by the displacement consequent upon a fracture, as it will approximate their origins and insertions; and, there can be no doubt, that, in such cases, the eversion is counteracted by a very slight degree of force, more suggestive of passive than active resistance, or, in other words, of yielding to gravity rather than resulting from muscular contraction. Thus the effect of detaching the muscles of external rotation in causing inversion, would not be so much by preventing eversion, as by allowing the former condition to be produced through the agency of the smaller glutæi, so that the state of inversion would be the only one truly dependent upon muscular contraction. In cases of inversion, I have accordingly noticed that the resistance to adjustment of the broken bone was greater than in the usual state of eversion. Independently of other considerations, the diagnosis of this particular injury is of importance in regard to the prognosis, since whatever difference of opinion may still exist as to the reparation of fractures through the neck of the thigh-bone, there can be no question as to their ready reunion when seated in the trochanters, and in cases of eversion it is impossible to discriminate with certainty, by external examination between these two conditions, but when the toes are turned inwards there cannot be any doubt as to the fracture admitting of complete recovery. While, therefore, prudence will always require that fractures of the upper extremity of the thigh bone should be treated as curable, the surgeon must be cautious in promising a favourable result, unless inversion of the limb satisfies him that the case is certainly within reach of remedy.

In regard to the means of treatment there does not appear to be any room for choice, since the one unquestionably most comfortable to the patient, and most conducive to the end in view, is the "Long Splint of Desault." It was accordingly employed in the case which led to these remarks, and with such success that the patient left the hospital on the 13th of March without there being almost any appreciable difference between the limbs by external examination. Sir Astley Cooper objected to this means of treating fracture of the upper extremity of the thigh-bone, that the pressure caused by its extending force would be apt to cause mortification in the feet of old people, who are most liable to suffer this injury. But I have long been satisfied, and by example

[1] Edinburgh Medical and Surgical Journal, 1826.

as well as precept, endeavoured to inculcate, that the long splint is not required to maintain extension, and that the good effects produced by it depend entirely upon the prevention of motion in the limb. For this purpose it must be long enough to extend from the patient's false ribs to a little beyond the sole of his foot, and broad enough to equal the height of the knee, as it lies in the straight position, so that, if the patient is an adult, it should be about four feet and a half long, by four inches and a half in breadth. Unless the breadth of the splint be thus proportioned to that of the limb, it cannot prevent rotation; and unless long enough to reach the lower part of the chest, it must be equally incompetent to prevent motion of the hip-joint. Yet, in the Surgery of Desault, by Bichat, it is represented as extending no higher than to the trochanter major, and not more than three inches in breadth. It is, therefore, not surprising that the splints of this kind, employed in practice, are so frequently defective in their essential requisites, being almost always too narrow, and either too long or too short. One sent to me lately from New York is six feet long, and three inches and a half in breadth, with a longitudinal slit for fixing at different distances a screw, having a hook at its extremity, for the more effectual maintenance of extension. But from what has been said, it will, I trust, appear that any such extension must be useless in fracture, through the neck or trochanters; and even when the shaft is concerned, an extending power cannot be required; since if the broken surfaces are properly adjusted, it is unnecessary; while, if they are not so, it is altogether inadequate to replace them. So soon as possible after the injury, the fracture should be carefully set, through due extension and manipulation, guided by regard to the form of the sound limb, and then, if in the shaft, be supported by two lateral splints of pasteboard, or split wood, long enough to extend from the pubis and trochanter major to the knee, and which may be secured by four or five looped bandages. The long splint, if properly applied, will then prevent rotation and insure perfect immobility. There should not be any bandages employed that cannot be undone without deranging the limb; and, therefore, instead of several long rollers, such as are frequently used, a sheet or table-cloth is preferable—the splint being wrapped in it, until merely enough is left for folding over the thigh and leg. Under this mode of treatment, for which all the requisites are so simple that they may always be procured extemporaneously, recovery is completed with great comfort to the patient, and no less credit to the surgeon, there being, in general, hardly, if any, perceptible difference in the limbs, instead of shortening to the extent of two inches or more, which happens so frequently, as to have been considered by some authorities as almost unavoidable.

In conclusion, I beg to express my persuasion—

1. That the great requisites for treating fractures successfully, are coaptation and immobility.

2. That extension, or a struggle between the two opposing forces of muscular contraction and a mechanical power, is not consistent with either of these conditions.

3. That, therefore, extension should be abandoned in the treatment of fractures.—*Edinburgh Med. Journ.*, Oct, 1857.

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31. *Ovarian Dropsy cured by Simple Puncture.* By Prof. Oppolzer.—The subject of this interesting and unusual case was 42 years of age, and had menstruated regularly. Four years prior to her coming under observation she remarked a swelling over the pubes, accompanied with pain in the region of the left ilium. A year afterwards she became pregnant, and the delivery was natural. The abdomen, before this event, was remarkably large, and remained after parturition also much increased in size. Menstruation was re-established, and continued regular. The abdomen gradually attained the size which it presented on the woman being received into Oppolzer's Clinique. Pressure on the lower and left portion of the abdomen caused pain. Defecation was difficult, and the calls to pass water were frequent and distressing. There was no trace of albumen in the urine. The ankles were slightly œdematous.

The size of the tumour and the distressing symptoms rendered her unable to work. The operation of tapping was accordingly determined, with a view

of affording relief. Thirty-two pounds of a tolerably clear, greenish-coloured, opalescent fluid were drawn off, and on examination was found to be of alkaline reaction, and of sp. gr. 1035. It abounded in alkaline and chlorides; there was no colouring matter of blood nor phosphates.

After the operation, the dislocated organs, the liver and heart, returned to their normal position. The abdomen continued somewhat enlarged, and percussion indicated that some fluid still remained in the cyst. The uterus, which had been high up and immovable, was now easily reached and moved. The pains after two days disappeared, and she was discharged, with an injunction to return after some time to show herself.

Her condition after one year and twenty days is thus described: Her appearance is blooming; the abdomen not in the least increased in size; the most carefully conducted percussion fails to discover any abnormal dulness; palpation detects no fluctuation; no remains of the cyst exist; the uterus is normal; menstruation natural, and the pains of which she complained have not returned.

No doubt could be entertained that in this case radical cure was attained by the simple operation of tapping.—*Dublin Hosp. Gaz.*, Aug. 15, 1858, from *Wockenblatt der Zeitschrift der k. k. Gesellschaft der Aertze zu Wien.*

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32. *Carcinomatous Growth removed by a Pen and Escharotics.*—Prof. Simpson showed to the Medico-Chirurgical Society of Edinburgh (May 5, 1858) a carcinomatous growth which he had removed by applying to it, with a common pointed goose-quill, a thickish paste, made of commercial sulphuric acid and sulphate of zinc. The paste was taken up like a drop of ink in the pen, and laid in a line along the skin covering the tumour. The caustic immediately whitened and decomposed the external surface of the skin, and the decomposed tissue was scraped through with the point of the pen. By a succession of similar applications and scrapings, the skin and a portion of the underlying cellular tissue was cut through in a very few minutes; and two days afterwards the mass of the exposed tumour was divided and destroyed by the pen and caustic in the same way. If the tumour had been larger, a number of lines of escharotics could be sunk down in this same manner into the basis of the mass. The patient, who had had a tumour removed in England last year from the same spot by the knife, averred the pain of the caustic and pen was by no means great; but the sensitiveness of different patients was very different. After the dead tumour and dead surrounding tissue began to separate, the edges of the wound took on a rapid cicatrizing action, and pushed the decomposed mass out in a mushroom-like form. By the time it fell out, there was only a comparatively small circular sore left.—*Edinburgh Medical Journal*, July, 1858.

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33. *Treatment of Ulcers by Caustic Lint.*—M. Riboli has conceived the idea of dissolving nitrate of silver in a small quantity of water, soaking pledgets of lint in the solution, and drying them. This caustic lint, applied to ill-conditioned ulcers, produces a more permanent effect than the remedy in a liquid state; and as the author proposes different degrees of concentration for the solution, the activity of the treatment may be varied according to the nature of the case, and more or less advanced stage of the affection.—*Bull. Gén. de Thérap.*, April 30, 1858.

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34. *Metallic Sutures and Metallic Ligatures.*—Prof. Simpson showed to the Edinburgh Medico-Chirurgical Society (May 5, 1858) a large fibroid tumour, extracted last month from the mamma. It was, he believed, the first instance in which metallic ligatures were ever used in the human subject to tie the vessels laid open in a surgical operation. In this case Professor Simpson used a thread of platinum for this purpose. The lips of the wound were united also by a suture of platinum wire. Dr. Sims, of New York, had lately earnestly pleaded the advantages of silver wire as a thread for surgical sutures, and as forming a material less irritating than silk, hemp, etc. But, if a metallic suture were of value in this respect, Professor Simpson argued that metallic ligatures to the cut vessels (a subject not alluded to by Dr. Sims) ought to be of still

greater moment in relation to the healing of wounds by the first intention. The silver wire employed by Dr. Sims (No. 29) was too rigid to make a small knot, such as was required for the ligatures of vessels. Professor S. had used platinum, as more tenacious and pliant than silver. Perhaps copper alone, or covered with silver or gold, would be found as good, and much cheaper; and possibly slender threads of wire would, on experience, turn out the best, as well as the cheapest, for both sutures and ligatures.—*Edinburgh Medical Journal*, July, 1858.

35. *Size of Male and of Female Larynx.*—Dr. Struthers states (*Ed. Med.-Chirurg. Soc. Proceedings*), that he has been in the habit of showing his pupils that a shilling, and sovereign, are arrested in the male larynx, and a sixpenny piece, and half-sovereign, in the female larynx, at the same spot. They readily pass into the upper larynx, and, by falling straight in the middle line, might pass partly through the rima glottidis; but are firmly arrested just below this, so that the upper edge projects up through the rima, and is within the touch and reach of forceps. The male trachea is large enough to allow a shilling to move up and down in it, though not freely, but the amount of direct finger force necessary to push the coin through the lower larynx, is such that the passage could not occur in the living body. A shilling measures eleven lines, a sovereign nearly a line less. A sixpenny and half sovereign measure nine lines.—*Edinburgh Medical Journal*, July, 1858.

OPHTHALMOLOGY.

36. *On the Influence of the Cervical Portions of the Sympathetic Nerve and Spinal Cord upon the Eye and its Appendages.*—Dr. John W. Ogle read a paper on this subject before the Royal Med. and Chirurg. Soc., June 22.

The main object of this paper was the application to clinical medicine of the various experiments which have from time to time been performed, as showing the influence possessed by the sympathetic in the neck and the upper part of the spinal cord upon the iris and upper eyelid. Experiments and dissection as regards the lower animals have shown that the curtain of the iris, containing as it does two sets of muscular fibres, a circular set by which the pupil is contracted, and a radiating set by which it is enlarged, is under the domination of two separate and distinct sources of innovation. The third cranial nerve is found to control the circular or contracting fibres, and the sympathetic, by virtue of communication with the lenticular ganglion, is found to control the dilator or radiating fibres. Hence if the influence of the third pair be destroyed, the pupil becomes dilated, inasmuch as the dilator fibres, those presided over by the sympathetic, are unopposed; again, if the influence of the third cranial pair be left unimpaired, and that of the sympathetic be destroyed by section or extreme pressure, then the pupil becomes contracted. The author dwelt upon the history of the various experiments upon which the above statements are made, and also upon those from which it is concluded that in certain parts of the spinal cord resides the power or influence which acts upon the dilator fibres of the iris passing to that structure through the sympathetic viâ the roots of certain cervical and dorsal nerves. From these latter it is apparent that the same paralysis of the dilator fibres of the iris which follows section of the sympathetic in the neck follows also the severance of such fibres as connect the sympathetic with the spinal cord, as also the section or destruction of the spinal cord itself in certain parts. Accordingly it might naturally be expected that any cause of extreme pressure acting upon the various portions of the nervous system before alluded to would, as in the various experiments before adduced, cause a contracted state of the pupil on the side corresponding to that on which the extreme pressure existed. And thus it was that Dr. Gairdner, of Edinburgh, first sought to explain those cases in which, along with an intra-thoracic aneu-

rism, a contracted state of the pupil coincided. These cases of his were detailed, several of them not having been hitherto recorded, and to these others were added of his own observation, as well as some from other sources. Cases were next given in which pressure from aneurism upon the sympathetic in the neck had produced contraction of the pupil. In the third place, instances were adduced in which extreme pressure from other causes than aneurisms had produced a like effect upon the pupil, as in the case of enlarged glands, carcinomatous deposit, etc. In the fourth place, bearing in view the intimate connection between the sympathetic main branches in the neck and the cervical part of the spinal cord, he drew attention to several cases in which a contracted pupil had been observed in injuries of the spinal cord itself. But in addition to a contraction of the pupil as brought about by section of the sympathetic, spinal cord, etc., as before spoken of, experimenters have also found that irritation or galvanism of the same parts of the nervous system will bring about a dilatation of the pupil, and that this dilatation may be effected even when section or extreme pressure has already given origin to contraction of the pupil. Accordingly, in these physiological facts an explanation was sought of certain cases in which pressure from aneurism, diseased products, etc., appeared to produce, not a contraction, but a dilatation of the pupil in man; and he instanced, in the 5th place, several cases in which the pressure from various sources was inestimably so much in extreme as to be, in fact, a source of irritation or stimulus, acting in the same way as it was found in animals, that any stimulus, mechanical, chemical, or galvanic, would act upon the sympathetic. In no other way could he explain the dilated state of the pupil which existed. But besides the above-described effect upon the pupil of the eyes, in enumerating the various experiments in which the sympathetic, etc., was divided, special attention was drawn to a dropping of the upper eyelid, or ptosis, which on several occasions was observed. This phenomenon was explained on the supposition that along with the sympathetic fibres to the iris, those to the third cranial pair are also paralyzed, and hence the levator of the upper eyelid, which is supplied from the third pair, is deprived of power to a greater or less degree. One or two cases were also adduced in which ptosis of the upper eyelid was observed in connection with pressure about the neck, from aneurism of other sources. He offered the same explanation of the convergent strabismus which, in the hands of certain experimenters, was, along with other results, found to depend upon a division of the sympathetic cord in the neck. He supposes it to have existed by reason of paralysis of such fibres (in several animals, five or six in number) as pass up to join the sixth cranial pair of nerves, by which the power of this muscle becomes weakened, and its action counterbalanced by the internal adductor muscle.—*Med. Times and Gaz.*, July 24, 1858.

37. *Sympathetic Inflammation of the Eyeball.*—It has been shown, by abundant evidence, that when one eye is injured, and its fellow becomes weak and inflamed by sympathy with the former, the latter can be rescued from destruction in no other way than by removing the original source of irritation, by cutting off the forepart of the injured eye, and evacuating the humours, or by the entire removal of the eyeball.

Dr. P. H. Watson relates (*Edinburgh Med. Journ.*, July, 1858) the following case, illustrative of this maxim:—

"W. F., a stout, healthy young man, from Montrose, was struck accidentally, with a stick, upon his right eye, about six years ago. The organ was severely injured at the time, and has been a continued source of suffering and discomfort ever since. The following was its condition when he applied for advice at the Eye Infirmary: The pupil was widely dilated, and occupied by a milky capsular cataract; the iris, although bright and healthy in colour, had lost its tension, and oscillated with every movement of the globe. There was slight vascularity of the white part, but the cornea was perfectly healthy and transparent. Vision was nearly gone, and great irritability and tendency to lachrymation were exhibited upon every attempt to expose and examine the eye. For several months back, the left, or sound eye, had sympathized more or less with its fellow, and latterly, besides being weak and irritable also, had

become affected with a progressive dimness or imperfection of sight. In consequence of these alarming symptoms, he had wisely abandoned, for a season, his occupation as a plumber, which, indeed, he was little able to follow, and now applied for medical aid.

It seemed very probable, considering the obstinate and prolonged nature of the case, that complete removal of the injured eye would be the only effectual remedy for the amaurosis which was threatening the other; but, as the cornea and iris were both healthy, we determined, in the first place, to try the effect of extracting the crystalline lens, and so giving the organ an opportunity of subsiding into a quiet condition, on the complete evacuation of the aqueous humour. A section of the cornea was made in the usual manner, and the opaque capsule being opened, the lens came away *clear as glass and perfect*. Contrary to expectation, however, the hyaloid membrane remained entire, no vitreous humour escaped, and the flap of the cornea being laid down, the wound speedily healed, with a resecretion of the aqueous humour. No material benefit followed the operation; the pupil was now clear, but vision underwent little improvement, and, which was more vexatious, the eye continued weak and irritable as before.

There could be no doubt, now, as to the propriety of removing the entire globe. It was accordingly done, under chloroform, by dividing the muscles successively, in the manner recommended by Dr. Ferrall; and the result was most satisfactory. The left eye being no longer exposed, through its sympathy with the other, to an abiding source of irritation, speedily recovered its original strength and perfection of sight, and our patient was able to resume, with comfort, his former avocations. He wears an artificial eye, which is sufficiently supported by the textures still remaining in the orbit, and follows, better than could be anticipated, the movements of the other eye.

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38. *Amaurosis.*—Dr. R. Hamilton and Mr. B. Bell, in their quarterly report (*Edinburgh Medical Journal*, Aug., 1857) of cases occurring in the Edinburgh Eye Infirmary, relate the following case of amaurosis, and offer some very instructive practical remarks:—

"A female servant, about thirty, of fair, clear complexion, and in the enjoyment of good health, although never very robust, accompanied her mistress to a picturesque village on the northern shore of the Firth of Forth, during the autumn of 1856. She felt the glare of light upon the sea rather trying to her eyes, but experienced no great inconvenience, until one bright sunset, when a sudden dimness of vision came on in the right eye, attended by slight redness and tendency to water, without pain. This state of the eye had lasted for a week, when she was seized, during the night, or rather towards morning, with a very intense pain in the right temple. It was not of very long duration, but almost unbearable. The dimness of sight continued; and in October, two months after its accession, she began to observe, in front of the eye and throughout the field of vision, showers, as she described them, of dark motes, which were unabated on the 28th of January, 1857, the time of her applying at the Eye Infirmary for advice. Her amount of vision with the affected eye was then extremely small, as she could hardly distinguish the large capital letters on our admission card. The pupil was black, regular, and tolerably active; the only objective symptom being a slight vascularity of the sclerotica bordering upon the cornea. A few leeches having been applied to the lower eyelid, and attention paid to the state of the *primæ viæ*, she was directed to take, night and morning, a pill containing one grain of *pil. hydrargyri*, and three of extract of *gentian*. This was on the 31st of January. In ten days the gums were tender, and simultaneously a very marked improvement took place in her condition—the *muscæ*, which had been present for more than three months, disappearing entirely, and vision becoming so perfect that she could read the smallest print with as much ease as before her illness. The pills were gradually discontinued, and the recovery seemed to be complete.

"In these days, when doubts are sometimes cast upon long-established methods of cure, and when, as we believe, the comparative rareness of the more

intense inflammatory diseases, with which our fathers had to grapple, has given a temporary plausibility to the new doctrines, the abettors of the old antiphlogistic system are still masters of one fortress, so to speak, within which they may look forth upon their antagonists with calmness and complacency. The strong position to which we refer is the common treatment of inflammations of the eye, a class of diseases in which we can often literally *see* the effect of remedies, and trace the relationship of cause and effect with the same precision as in other subjects of physical investigation. It is hardly necessary to mention those cases in which inflammation of the iris holds a conspicuous place. Can there be a reasonable doubt in the mind of any one who has been accustomed to treat such forms of disease in the ordinary way, that the inflammatory process admits of being broken, as to its violence, by local bloodletting, and then of being conclusively arrested by the internal use of mercury? Can we doubt that, were remedies withheld and the disease suffered to run its course, although pain and redness might disappear, the organ would be seriously damaged, not merely from adhesion of the iris to the capsule of the lens, but from thickening and opacity of other delicate textures still more essential to perfect vision? Without being advocates for much depletion, believing that a very moderate loss of blood, at the right time and in the right place, will commonly answer every useful purpose, we are very skeptical as to the successful treatment of many forms of deep-seated ophthalmia independently of bleeding or mercury. Many years ago, in the wards of St. Bartholomew's Hospital, we saw our distinguished friend, Mr. Lawrence, attempt repeatedly to cure iritis without having recourse to mercury, and yet find it necessary, out of regard to the welfare of his patients, to have recourse to it in the end. Mr. Lawrence took this mode of impressing the minds of his pupils with its great value, and they had many opportunities of learning, from personal observation, that mere depletion will not arrest the hurtful inflammatory action which lingers in the eye after the first violence has been subdued. The supporters, therefore, of the antiphlogistic treatment of inflammation have reason to feel peculiarly strong and unassailable when the contest is maintained upon *ophthalmic ground*, an arena which their opponents seem generally to dislike. At least, they have no partiality for illustrating their doctrine by inflamed textures visible to the naked eye; but have hitherto shown a decided preference for textures within the chest, whose morbid changes are appreciated mainly by the ear.

"An obvious objection to this course of procedure occurs in the mere statement of it; and we venture to suggest another. A *pneumonia* of moderate extent, allowed to run its course, may leave the patient, to all intents and purposes, as good a man as it found him, even although a certain portion of his pulmonary tissue is no longer in its normal condition. The remaining sound lung, on either side, may henceforward perform the whole work of respiration so thoroughly that both the patient and his physician shall have good reason to regard the cure as virtually complete. But it is very different with the eye. An inflammation of the *iris, choroid,* or *retina,* if left to itself and allowed to run its course, is much more serious, ultimately, to vision, than the supposed pneumonia to respiration. The damage inflicted upon these delicate textures causes inevitably an impairment of sight, for which there is no *vicarious* provision. One portion of the *crystalline capsule* or *retina* preserving its transparency, is no substitute for other portions which have been rendered opaque by exuded lymph; and, therefore, he who would treat such diseases successfully, feels the necessity for precise, prompt, and effectual remedies. Experience has told him what these remedies are, and, at the risk of being condemned by the new school of physic, he feels bound to use them. Modern speculation would fain convince him that the Cullens and Gregories of former days were mistaken when they fondly supposed that they could subdue a pneumonia or a pleurisy *vi et armis;* but, although he now seldom or never meets with such stalwart inflammation as they encountered daily, he still holds, more or less, by the same weapons in his own peculiar province. The weapons may have been wielded sometimes with undue and dangerous energy, but they often did good service, and may do it again, when the same circumstances in the cycle of disease come round.

"For these two reasons, therefore, the visibility of many inflammations of the eye, and the accuracy with which a complete cure can be known, it is surely desirable that those who, as a general rule, condemn the abstraction of blood and the use of mercury in the treatment of inflammation, should leave the pulmonary textures, and draw illustration of their doctrine from the organ of vision."

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39. *Secale Cornutum in Asthenopia.*—Prof. Von Willebrand states (*Archiv. für Ophthalmologie*) that he has employed "secale cornutum in several diseases of the eye, in which I believed the evil to be removable by recalling a brisk contractility in the walls of the bloodvessels, or in other structures furnished with unstriped muscular fibres. This remedy has proven of the greatest advantage in disorders of the adjusting power of the eye. . . .

"A woman, aged 28, of a fine, healthy appearance, who had always enjoyed good health, and who had gone through two favourable confinements, the last of them four years before, complained of great deterioration of sight, so that she could not occupy herself for longer than some five minutes at a time in sewing or reading, when the letters seemed to mix together, and pain arose in the eyes, spreading to the brow and temples. Were they, on the contrary, wholly unemployed, she felt no pain in the eyes, and found her power of vision pretty much as it had always been. The patient thought she had remarked this irritability of the eyes to have come gradually on for two years, contemporaneously with diminished menstruation. No morbid change could be detected about the eyes. The pupils were somewhat contracted, but quite movable. The patient could distinguish near and distant objects as formerly. Her visual distance was normal. The eyeballs felt something firmer than common. There was no doubt that the disease consisted in a disturbance of the adjusting power; it appeared to me certain also that a chronic congestive state of the eyes was present, and that this was probably the cause of the disturbance in the adjusting power of the eye. The case presented nothing further worthy of note, except that the bowels were slow.

"I ordered ten grains of secale cornutum with carbonate of magnesia, four times a day. I saw the patient again in four days; she was overjoyed at the improvement which had taken place. She could now read and sew with ease. This state lasted four months, after which the patient observed that the disease returned. The same means was again employed, and with equal benefit. Since then she has seldom required to have recourse to it, so long as she follows the advice given her, to use her eyes sparingly in reading and sewing.

"More recently, I have in cases of disturbance of the adjusting power, always used the same means, and with constant good effect. The complaint returns, indeed, readily in those cases, where the cause (for example, straining of the sight upon minute objects, especially in a bad light) cannot be avoided, yet it is removed by the same means. The young people of the ladies' school of this place, who, in consequence of strained occupation in a bent position, and of ill-arranged illumination, are exposed to the above-mentioned unfavourable circumstances for sight, have afforded me several examples of considerable derangement of the adjusting power, which all, at least for a time, have yielded to this means. I am thereby firmly convinced, that in disturbed power of adjustment the treatment by means of convex glasses is greatly aided by internal medicine. The dose of the secale cornutum is to be varied according to the age of the patient. Lately, I have ordered only five grains for a dose to an adult, mostly in combination with carbonate of magnesia, sometimes in chlorotic cases with iron."—*Med. Times and Gaz.*, August 28, 1858.

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40. *Malposition of the Lachrymal Canaliculi.*—About eight years ago, attention was drawn to the everted punctum by Mr. Bowman, who recommended slitting up the canaliculus as a potent means of amelioration.

Mr. Haynes Walton has recently (*Med. Times and Gaz.*, Aug. 14th, 1858) proposed a plan of treatment which, in some cases, will afford a better result.

"The common cause of eversion of the lower punctum, unattended with

general ectropium," observes Mr. W., "is chronic inflammation at the corner of the eye, involving more or less the tarsal edge, so that this is thickened, and the movements of the canaliculus impaired or destroyed. There is, in reality, a little ectropium, a partial turning out of a very important part of the lid. I recommend nothing more than to treat this diminutive ectropium, as I have for years treated the more general and extensive, sometimes the complete eversion of the lid, by the removal of a part of the palpebral conjunctiva. A miniature operation is needed. With a very small scalpel and a fine cross-tooth pair of forceps, I dissect off a bit of the conjunctiva (not so rapid or easy a process as might be supposed), just posterior to the canaliculus, and from over the entire thickness of the cartilage. The lateral limits, I regulate by the degree of the inversion. I do nothing more, and leave the wound to cicatrize, with the advancement of which, the punctum is turned in, and, according to the lesser pathological change that it has undergone, the more perfectly will it be righted. I have often been surprised at the degree of perfection thus obtained.

"No persons have such opportunities of inquiring into the value of any class of remedies, or any plan of treatment, as one's colleagues. A man may deceive himself, but he cannot deceive them. It is, then, to my brother officers, at the special institution to which I am attached, that I refer, if reference be needed, for the confirmation of these facts.

"But the edge of the lid may be too much thickened, and otherwise altered, as in very chronic cases, when the exposure of the mucous membrane is a secondary source of irritation, and the operation will not do all that is needed. Then the canaliculus should be slit up, and the channel maintained by passing the probe daily, till the surfaces have no longer a tendency to unite. In elderly persons, and in the aged, the punctum may be displaced, falling outwards, solely because of paralysis of the orbicularis palpebrarum, there not being, as in the other instance, any structural change in the parts. Here, I have not failed to give complete relief by attending to the ectropium alone."

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41. *Six Cases of Cataract in the same Family.*—Mr. J. F. Streatfeild states (*Ophthalmic Hospital Reports*, No. iii.) that he has lately seen a family of which five children and their mother had double cataracts. "It did not appear that any of the paternal or maternal relatives had been similarly affected. The grandmother, who was present, first observed the deficiency of vision, and the defect in the eyes of her child, the mother, when she was a year and a half old, and in the second generation, at various ages, *later in life according to the seniority of the five children;* thus, the eldest for six years, and the youngest for a year and a half, are said to have had good vision. There was not in either of the cases any history of short-sightedness before the defect was evinced, and, after this time, *in a month to six weeks*, in either of the cases, the child became so blind as only to distinguish light objects. The six patients have all gray irides, and hair of a very light brown, in the younger children almost colourless. The mother has two sisters and a brother who have brown irides and good vision. All her children much resemble their mother in appearance, and all of the family, including the father (who is a labourer) are of a healthy, sanguine disposition, and have no other defects perceptible. In neither of the patients are there any corneal opacities, or unsteady movements of the eyes."

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42. *Chloride of Zinc and Glycerine in Ophthalmia of New born Children.*—Dr. A. Macmillan recommends a solution of five grains of chloride of zinc in half an ounce of glycerine (the two to be well triturated in a glass mortar) as an application in the ophthalmia of new-born children. He applies a few drops three times a day.—*Med. Times and Gaz.*, July 3, 1858.

MIDWIFERY.

43. *Menstruation in Austria.* By Dr. Ferd. Szukits.—Of 665 women born in Vienna, and menstruating there for the first time, the mean age for its first appearance was fifteen years and eight and a half months; in 210 cases, in the beginning of the fifteenth year; in 87, in the eighteenth year; in 84, in the sixteenth; 6 women menstruated first at the age of eleven years, 3 at twenty-two. The period during which menstruation may primarily occur in Vienna comprises twelve years. In Paris, in the same latitude, it occurs one year earlier.

Of 1610 women from the country, the age of first menstruation averaged about sixteen years and two and a half months. 418 menstruated during the 15th year, 251 in the sixteenth; then followed in order the seventeenth, eighteenth, and nineteenth. More than half, 888, menstruated after the fifteenth year; less than one-fifth—304, before it. Two menstruated at ten, and the oldest—two likewise—first menstruated at twenty-five. The period during which menstruation may primarily occur, comprises therefore sixteen years in the country—four more than in the town of Vienna. Of these 1610 women, *a.* 603 were from Upper and Lower Austria Proper; of them, the mean age of first menstruation was sixteen years and three months; here also the greatest number, 142, menstruated in the fifteenth year, 88 in the seventeenth, 81 in the sixteenth, and 72 in the eighteenth year; the youngest, 5, were eleven, and the oldest, 2, twenty-five years old; the period of primary menstruation comprising thus fifteen years, or three more than in Vienna. *b.* 430 were Bohemians, of whom the mean age of primary menstruation was sixteen years and two months; 148 menstruated first at fifteen, 51 at seventeen, 49 at sixteen, and 46 at eighteen; the youngest was ten, and the oldest twenty-four, at her first menstruation; the period of primary menstruation comprising fifteen years. *c.* 273 came from Moravia, the mean age of primary menstruation being sixteen years and three and three-quarter months; 69 menstruated first at sixteen, 59 at fifteen, and 32 at seventeen; the youngest, 8 in number, were twelve, and the oldest, 8, twenty-two years old; the period of primary menstruation comprising thus only eleven years; one year less than in Vienna, and four less than in Bohemia and the rural districts of Austria Proper. *d.* 180 women came from Hungary; and of them the average age of primary menstruation was fifteen years; 39 menstruated first at fifteen, 19 at fourteen, 16 at thirteen, 12 at seventeen; the youngest was ten, the oldest twenty-two; the period of primary menstruation comprising twelve years. *e.* 67 women came from Silesia; the mean age of their primary menstruation was sixteen years and one and a half months; 21 menstruated first at sixteen, 14 at fifteen, 8 at seventeen, 87 at eighteen; the youngest was twelve, the oldest twenty-two years old; the period of primary menstruation comprising eleven years. *f.* 66 women came from Bavaria; their average age for primary menstruation was sixteen years and ten months; 17 menstruated first at seventeen, 15 at sixteen, 9 at eighteen, and 8 at fifteen; the youngest was eleven, the oldest twenty-three; the period of primary menstruation comprised thirteen years.

Brierre de Boismont fixed in Paris the age of primary menstruation at fourteen years and ten months for the poor, fourteen and five months for the middling classes, and thirteen years and eight months for the rich; and with this the observations of Chomel, Andral, and Recamier agree. Of our author's 2275 cases, 136 were of the middling classes—in them the average age of primary menstruation was fifteen years and two months; 730 handworkers—medium age fifteen years and ten months at their first menstruation; 1207 female servants, of whom the mean age of primary menstruation was sixteen years and two months; and 202 day labourers, whose mean age at their first menstruation was sixteen years and one and a half month; these results agreeing with Boismont's observation, that menstruation is earliest among the rich, and latest among the poor. Among the 2275 women, the ages at which menstruation first occurred are thus divided:—

At 10 years		2	women menstruated.	At 18 years		259	women menstruated.
" 11	"	15	"	" 19	"	147	"
" 12	"	36	"	" 20	"	95	"
" 13	"	149	"	" 21	"	34	"
" 14	"	204	"	" 22	"	30	"
" 15	"	628	"	" 23	"	4	"
" 16	"	335	"	" 24	"	2	"
" 17	"	283	"	" 25	"	2	"

The average age of primary menstruation in Austria being thus fifteen years and seven and a half months. As influential agents in hastening or retarding menstruation, Sz. enumerates geographical position, climate, populousness of a town, nationality, mode of life, occupation, food, clothing, dwelling, training, morals, and bodily organization; according to some authors, hereditary tendency is also influential. Although in Austria menstruation most commonly occurs between the fifteenth and seventeenth years, many cases have been recorded of its much earlier occurrence. Wilson observed a case in which it occurred in the fifth year; the breasts being as large as those of a marriageable female. Scanzoni records one case at eight years: D'Outrepont, one at nine months; she had protuberant breasts, and menstruated every four weeks till her death in her twelfth year. Boismont records two cases—in one menstruation commenced in the third month, in the other in third year. Similar observations are recorded by Mad. Boivin, Dieffenbach, and Martin Wall. In France, early menstruation is more common than in Austria; as Boismont, in 1200 cases, found fourteen who had menstruated before their tenth year. According to Szukits' observation, in scarce one-third was primary menstruation painful; while in France, according to Boismont, this was the case in more than two-thirds. In one case of dysmenorrhœa our author observed trifling acne rosacea on the chin and sides of the nose—the woman was twenty-seven years old. In three cases, each menstrual period was attended by an eruption of urticaria over the entire body; and in two girls, one fifteen, the other seventeen, the molimina of primary menstruation were attended by inflammation of the cellular membrane, which again disappeared on its cessation in three to five days after. Strong, healthy women generally menstruate more sparingly than feeble, anæmic, or tuberculotic females; the latter, if not labouring under amenorrhœa, have profuse watery menstruation, lasting from ten to fourteen days. Of 1013 women, 240 menstruated sparingly, 560 moderately, and 187 profusely; of the latter, 26 passed clots without there being any uterine lesion present. Of 1013 women, Sz. found that only 642 menstruated regularly every twenty-eight to thirty days, 371 menstruated irregularly, 169 menstruated from every eight days to every three weeks, 128 only every five or six weeks. The duration of menstruation is influenced by the same causes which influence its early appearance—its medium duration is 3½ days. Three times, Sz. saw menstruation occur for a shorter or longer period during pregnancy; also during lactation it was frequently seen. Trustworthy cases are recorded in which menstruation only occurred during pregnancy or after delivery. During fourteen years, and in 8000 cases, 14 occurred of total absence of menstruation; four of these had borne children repeatedly, the others never; most of them had from time to time, every three or four weeks, molimina menstruationis; in none was there any vicarious menstruation; in two cases, imperfect development of the uterus was discovered. Of 263 women, menstruation ceased in 99, between forty-six and fifty years; in 77, between forty-one and forty-five; in 42, between fifty-one and fifty-five; in 26, between thirty-six and forty; in 15, between thirty and thirty-five; and in 6 cases, between fifty-six and sixty years. The youngest woman who had ceased to menstruate was thirty-two, the oldest sixty-one, at the period of cessation. This may occur suddenly, without interruption to the general health, or it may take several years for its completion. Boismont reckons the average of this at two years. Sz. found the mean duration of uterine power to be thirty years. 125 women menstruated from twenty-one to thirty years; 106, from thirty-one to forty years. The shortest period of menstruation was twelve years, and happened

in two cases; the longest, forty-five years, likewise occurred twice. Boismont found one case with a duration of only five years, and another with a duration of forty-eight. Of 863 women, 64 were never pregnant; 124 conceived once; 73, five times; 63, six times; 74, seven times; 38, eight times; 32, nine times; 27, ten times; 11, eleven times; 15, twelve times; 13, thirteen times; 5, fourteen times; 2, fifteen times; 7, sixteen times; 2, seventeen times; 3, eighteen times; 1, twenty times; 2, twenty-two times; 4, twenty-four times—863 women, of whom 61 aborted; each woman averaging about five conceptions. The most usual period of conception in Europe is between the fourteenth and fiftieth year; but cases of child-birth in the sixtieth year are recorded by Meissner, Bernstein, Osiander, Mende, and Busch. Haller saw one case of childbirth at sixty-three, and another at seventy; as also Labatt in Dublin, and Capuron, in Paris.—*Ed. Med. Journ.*, Aug., 1858, from *Zeitschrift d. Wien. Aerzte*, 1857.

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44. *How Many Children can a Woman Bear?*—Dr. Szukits says that this question has not yet been satisfactorily answered. He himself has observed two females, each of whom had borne twenty-four children. Osiander (*Handb. d. Entbindungs Kunst*, 1 Theil, 1 Abth. S. 319) mentions one woman who during her married life bore 44 children, and another who had 53. Burdach (*die Physiol. als Erfahrungswissenschaft*, 1 Bd. 1826, S. 410) relates that the wife of a countryman in the Moscow district had given birth to 69 children at 27 confinements—four times four at one birth, seven times three, sixteen times twins. In the year 1809, the Vienna newspapers contained the following announcement: Maria Anna Helm, the wife of a poor linen weaver in Neulerchenfeld, 20 years married, bore at 11 confinements 32 children; 28 living, and 4 dead; 26 were males, and 6 females; all were begotten by one man, and nursed by herself. She had at her last confinement three children—one living and two dead. Her husband was a twin, she herself one of four. Her mother had produced 38 children, and died during a confinement with twins (Osiander, 516). Six children seem to be the largest number ever produced at one birth. A perfectly trustworthy instance of this is the following: The *Schwäb. Mercur*, No. 8, S. 22, 1806, contains the following notice: Ohlau in Silesia, 11 Dec., 1805.—The wife of a chimney-sweep here, named "Döpfer," was yesterday confined of six children; all were boys, and dead. This woman, who has been twice married, has already given birth to 44 children. During her first marriage, which lasted twenty-two years, she bore 27 boys and 3 girls. In her second marriage, which has lasted but three years, she has born 14 children—3 at the first, 5 at the second, and now 6 at third confinement (Osiander, 320). —*Ed. Med. Journ.*, June, 1858, from *Zeitschrift, d. K. K. Gesellschaft d. Aerzte zu wien*, July and August, 1857.

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45. *Beneficial Effects of Pepsine in the Obstinate Vomiting of Pregnancy.* By L. Gros, M. D.—In the great majority of cases the vomiting of pregnancy may safely be left to the influence of time; but there are some cases in which females are scarcely able to retain in their digestive system a sufficient amount of nourishment to support their existence, and are therefore reduced to the last degree of emaciation. In some, also, the shocks occasioned by this obstinate and repeated vomiting become the source of abortions, which might have been prevented by moderating the activity of the morbid phenomenon. A very remarkable case was related in 1856, by M. Teissier, Professor of Clinical Medicine at Lyons, showing the immediately beneficial effect of a dose of pepsine in a case of vomiting during pregnancy. In this case the symptoms resisted all the ordinary methods which were employed, and the patient was unable to retain in her stomach any substance whatever. Under these circumstances, the patient was brought to M. Teissier, who found her in the following condition: The vomiting had continued for two months, and she was at the end of the fourth month of her pregnancy; she presented the appearance of a skeleton, having the aspect and the cough of a phthisical subject; the pulse was 140, and M. Teissier thought at first that the case was one of pulmonary tubercle. Finding that all treatment had been hitherto inefficacious, and that the

lady was actually dying of inanition, he was seriously meditating upon the propriety of inducing abortion as a means of saving her life: but as a last resource before operating, he determined to employ pepsine. He accordingly prescribed one gramme, to be divided into two doses, and taken every day in a spoonful of broth. At the very first dose the broth was retained, and from that moment the vomiting never returned. On the third day the lady ate some chicken, and then some beef-steak. The treatment was continued in the same manner for three weeks, and at the end of that time the cure was complete: the emaciation was replaced by *embonpoint*, the fever and the cough ceased with the vomiting, and at the end of the ninth month the lady was safely delivered.

Dr. Gros then relates six other cases in which the pepsine was employed with the same success, and he thinks himself warranted in concluding that pepsine undoubtedly produces good effects in the vomiting which attends pregnancy. He explains the results by supposing that, although in the first instance the vomiting is due only to the sympathy existing between the uterus and the stomach, yet subsequently the stomach itself becomes affected, as is proved by the fact that in the beginning of pregnancy the vomiting occurs only in the morning or the evening; but in aggravated cases it supervenes after every meal, and all alimentary matters are rejected. In such cases, therefore, when the stomach has taken on a morbid habit, and exhibits an alteration of secretion, the pepsine appears to be really indicated; although in a merely sympathetic action between the uterus and stomach it would be difficult to explain the efficacy of its action.—*Brit. and For. Med.-Chirurg. Review*, July, 1858, from *Bull. Gén. de Thérapeut.*, Feb. 15th, 1858.

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46. *On the Condition of the Cervix Uteri during the latter half of Pregnancy.* By M. Caseaux.—Drs. Costilhes, Boys de Loury, and Bennett, maintain that during the early months of pregnancy ulcerations of the cervix uteri are of great frequency, and exert a powerful influence in the induction of various pathological conditions. M. Caseaux believes these statements to be greatly exaggerated; and at all events in the latter half of pregnancy, to which his own observations apply, they are not borne out. Examined by the speculum, the mucous membrane of the vulva, the vagina, and the free surface of the os itself, is found of a dark colour, which becomes deeper and deeper, until towards the end of pregnancy it has attained a dark violet. A person unaccustomed to this examination, and especially if he has not previously ascertained the position of the cervix by means of the finger, may have considerable difficulty in engaging this part within the extremity of the instrument—this arising from the anteversion of the body throwing the vaginal extremity backwards.

"As the *toucher* would lead one to expect, the modifications presented to the eye by the vaginal portion of the cervix, are very different in primiparous and in multiparous women. In both, the cervix is of a deep violaceous, wine-lees colour; but in the primipara, this is pretty uniform throughout its whole extent. The external orifice, the lips of which are much softened, is in general more or less rounded; but although it is larger than in the unimpregnated state, it admits of the penetration of the eye with difficulty, even when the valves of the speculum are considerably expanded. The circumference of the os, and the free portion of the cervix, rarely exhibit any traces of ulceration; but it is common enough to observe series of cherry-red granulations, true fleshy vegetations, varying in size from a pin's head to a large pea, which bleed on the slightest contact. In the woman who has borne a certain number of children, the cervix is in general much more voluminous, so that there is some difficulty in completely embracing it by the speculum. The lips of the os seem divided into several fragments, this segmentation, the result of lacerations that have occurred during former deliveries, rendering it very irregular. In consequence of these numerous solutions of continuity, the orifice is much larger and much more easily dilatable, so that the eye is enabled with ease to explore all the cavity of the cervix. The walls of this cavity are very unequal, and present irregular series of fungous projections, separated by more or less deep depres-

sions. Some of these prominences are transparent, being probably due to hypertrophied follicles, but others resemble true flabby (*mollasses*) vegetations. Sometimes these are covered by a protective epithelium, but it is not unusual for them to be deprived of this, and then to bleed upon the slightest touch. It is especially within the furrows which separate them, that more or less deep linear ulcerations are often observed. These ulcerations sometimes so increase in size as to occupy a pretty considerable surface, and then they are easily seen; but generally they are hidden in the depths of the anfractuosities, and in order to perceive them, after well cleansing the surface, we must put the cervix on the stretch by opening the instrument widely. I have very often met with these ulcers in multiparous women, and I believe that I am within the truth when I say that I have observed them in seven-eighths of the cases, confining this statement to the last third of pregnancy. Supposing that a singular chance has not favoured my researches for a long time past, it is probable that what I describe here is the normal condition, and should not be considered as a pathological state, but simply as a consequence of the progress of gestation. Resembling in this respect the deep colour, the tumefaction, the ramollissement, and the almost fungous condition of the walls of the cervix, which are proper to pregnancy, and in nowise influence its progress, these ulcerations have the same origin, and should be considered as the result of excessive congestion. I believe that they are of no more importance. I am especially convinced of their innocence, and believe that all treatment of them is much more mischievous than useful. . . . . If I am not mistaken, then, and if the peculiarities I have been describing belong to pregnancy, and are only an exaggeration of the modifications of the structure and the vascularity of the parietes of the uterus, this condition should disappear with the cause that gave rise to it. Like vomiting, varices, hæmorrhoids, and all the sympathetic disturbances of pregnancy, it should cease with this. And that is precisely what takes place, and we may lay down as a rule, that no traces remain five or six weeks after delivery; the ulcerations which we sometimes meet with in women recently delivered, do not, in fact, present the same appearances, and generally are referable to another origin." (Pp. 453–456.)

The statements made by Boys de Loury, Bennett, and others, as to the frequency with which abortion and various puerperal diseases are produced by ulcerations occurring at an early period of pregnancy, are so discordant with the observations the author himself has made, that he cannot but tax them with exaggeration. It is of importance to distinguish between ulcerations that have preceded pregnancy, and have persisted and increased since its occurrence, from those which have only become developed subsequently to the formation of the germ. The former, becoming irritated under the influence of exertion, and especially by excessive coition, may easily induce the contractility of the body of the uterus, and bring about premature expulsion. But the latter, in the author's opinion, rarely exercise a similar influence; so that however proper treatment may be in the one case, it does not seem called for in the other. He also doubts the justice of Bennett's statement, that these ulcers are a frequent cause of obstinate vomiting in pregnancy; and since he has been in the habit of treating this affection by the application of belladonna to the cervix, he has had the opportunity of examining four primiparæ, reduced by it to the last stage of marasmus, in whom the cervix remained perfectly healthy.

M. Laborie, in his report upon this paper, observes that M. Coffin, drawing his materials from the practice of M. Richet, describes precisely the same fungous ulcerations as those treated of by M. Caseaux; but that he attaches much more importance to their presence, at the same time that he admits that no kind of treatment has been applied with success. Of seven women examined by M. Laborie himself in M. Cullerier's wards at the Lourcine, there was but one who did not exhibit ulcerations. She was a primipara, and had reached the fifth month. Two other primiparæ, exhibiting the ulcers markedly, were three months gone; and the four multiparæ had respectively attained the periods of five, seven and a half, and nine months. In these cases no special means of treatment were adopted, nor is it probable that the ulcerations would

ever have been discovered without the use of the speculum.—*Brit. and For. Med.-Chir. Review*, July, 1858, from *Mémoires de la Société de Chirurgie de Paris*, tom. iv.

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47. *Shortening the Duration of Labour.*—Dr. J. Gray recommends (*Glasgow Med. Journ.*, Jan., 1858), in order to increase the action of the uterus during labour, and thereby expedite delivery, to excite the nipple as labour pain comes on, and continue the stimulation so long as it lasts. This is accomplished by passing the left hand gently but continuously upwards and downwards over one or other of the nipples; or by simulating with the fingers the act of sucking of the infant. By such manipulation, he says, the nipple erects, and, in virtue of *reflex action*, the uterine contractions increase in force; while at the same time the os dilates, and the external parts become relaxed. Besides shortening the duration of labour, he finds it has also the effect of preventing hemorrhage. The second stage of labour completed, if the placenta be not in the passage, he still maintains at short intervals the friction over the nipple, in order that the uterus may expel its contents; and also resorts to it in such cases as he has occasion to fear "flooding."

"Reasoning," Dr. G. remarks, "from the practice of ancient and modern times, and influenced especially by the theory of reflex action, as recently discovered and propounded by Marshall Hall, I have lately been led to adopt this mode of irritating the nipple, in order to increase the action of the uterus, with a view to the abridgment of labour. If, I inquired, the application of the child to the breast causes the womb forcibly to contract, and thus prevents 'flooding,' may not a similar operation, artificially performed, have the same effect in promoting the contractile efforts of the uterus, and hastening the delivery? That it does so, very ample trial has fully convinced me. In difficult cases, indeed, which require instrumental aid for their termination, it will most probably prove useless—failure depending upon malformation either on the part of mother or child. But where the child is in the normal position and of average size, and should no deformity exist in the pelvis or soft parts of the mother, I have found it generally successful. I never, however, be it remembered, interfere in those cases where there is already *active* uterine contraction."

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48. *Uva Ursi as an Obstetrical Agent.* By Dr. De Beauvais.—The uva ursi certainly possesses the power of causing contraction of the fibres of the bladder as well as of those of the uterus, and Dr. De Beauvais has seen a case in which a single dose produced a most painful vesical tenesmus; and he saw another case of the same kind in a man labouring under piles, complicated with blennorrhœa and varices of the neck of the bladder. A case also occurred of paralysis of the bladder, following hysteria, in which the use of uva ursi succeeded in restoring the contractility of the bladder. From this excito-motor property possessed by the uva ursi, it has been thought that it might be used effectually in certain cases of atony of the uterus, in which the ergot of rye is commonly employed. Its properties are not so dangerous as those of strychnia or of ergot of rye, and moreover it is not disagreeable in taste; in fact, it smells and tastes something like tea. The mode of administration, in simple labours which are retarded by weakness of the pains, atony of the uterus, and nervous exhaustion, consists in giving every hour a gramme of the leaves of uva ursi, infused in a teacupful of boiling water. It may be allowed to cool, and may be sweetened. But if it be desirable to produce a rapid effect, a decoction should be preferred, and the administration should take place at short intervals. Dr. De Beauvais thinks that uva ursi may be placed, on the one hand, in the rank of the astringent tonics, by reason of the gallic acid and tannin which it contains; but that, on the other hand, it deserves to be placed by the side of the ergot of rye, as a proper excitant of the muscular system of organic life.—*Ibid., Bull. Gén. de Thérap.*, Jan. 30th, 1858.

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49. *Laudanum in Painful Affections of the Uterus.*—M. Aran describes a means of locally applying laudanum, that he has found useful in several hun-

dred affections of the uterus. The object being to retain this substance in contact with the os uteri and upper part of the vagina, a magma is produced by means of an inert powder. The cervix being exposed by means of the speculum, from thirty to fifty (and sometimes more) drops of laudanum are allowed to flow to the bottom of the instrument. After bringing the fluid in contact with the surface by alternately opening and closing the valves of the speculum, a few drachms of starch are placed at the bottom of the instrument by means of a spoon or spatula, so that the laudanum may become absorbed by this, and, this taking place very speedily, the speculum is then withdrawn. While this is doing, the starch is kept in the vagina by charpie or cotton, which, indeed, may be left at the entrance of the vulva, if the size of this leads to the fear that the substance will fall out when the patient stands erect. Absorption takes place slowly, one hour, and sometimes three or four hours, being required before the first assuaging effect is perceived. No ill effects, whether from excess of narcosis or disturbance of digestion, have been observed. The application may be repeated every other day, or even every day, the patient in the interval well washing out the previously applied magma.

This dressing is applicable to those affections of the uterus and genital organs which, after active inflammation is subdued, still manifest a painful hyperæsthesia. But it is especially useful in the hyperæsthesia which sometimes accompanies uterine deviations, or the morbid adhesions contracted by the uterus with the other pelvic organs. In these cases of chronic cellulitis, as also in chronic inflammation of the ovary and the tube, it does good service by allaying morbid sensibility. In such cases a precise indication may be often sought for in vain, nothing indicating inflammation or congestion, or these having been subdued by local bleeding. A few laudanum dressings quickly bring relief, and that not for some days only but for entire months. "I have found another morbid occurrence remarkably modified by these dressings, viz., a special condition of the entire uterus, frequently met with in women of a certain age, and which, perhaps, is in some cases connected with the formation of small fibrous tumours. In these patients the finger and the speculum fail to detect any sign of inflammation or congestion; and yet so excessive is the morbid sensibility, that a false step or violent shock excites sensibility on every side. In other words, it is a most complete state of hysteralgia; a few laudanum dressings soon allay this sensibility and pain, the patient exchanging in a few days a state of extreme suffering and uneasiness for one of remarkable comfort." M. Aran has made but little use of this means in ulcerated cancer, fearing hemorrhage from the employment of the speculum; but in non-ulcerated cancer and epithelioma and in fibrous tumours, this means has afforded more marked relief than any other he has tried. It does not cure these patients, but to afford them relief is to do much.—*Med. Times and Gaz.*, April 3, 1858, from *Bull. de Thérap.*, t. 53.

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50. *Anæsthetic Powers of Carbonic Acid in Diseases of the Female Bladder.*—At a meeting of the Surgical Society of Ireland on February 27, Dr. Robert Johns made some observations on the application of carbonic acid gas as a means of procuring anæsthesia in diseases of the female bladder. He observed that Dr. Simpson, of Edinburgh, had lately brought the properties of the gas before the profession; but that Mojon used this gas long prior to him, and report now states that some one else recommended it previous to the latter named gentleman. Dr. Johns has known it to give much relief in organic and functional diseases of the uterus and neighbouring organs. Having seen much benefit result from injecting this gas into the vagina in vesical maladies, it struck him that relief ought to be more quickly obtained, and more permanently established, by bringing it more directly in contact with the diseased structures. He accordingly carried out his theory by conveying it into the organ itself, and thereby realized his most sanguine expectations. Two or three cases are given as types.

Case I.—Mrs. B., a middle-aged female, of strumous habit, came under treatment for chronic inflammation of the bladder, the effects of cold. The urine contained pus, blood, and mucus. She complained chiefly of a frequent desire

to micturate, being obliged to rise at night so often as twenty times. The blood was removed by ergot of rye, but with this exception, the ordinary treatment seemed not to have the slightest effect on the disease. Dr. Johns then had recourse to carbonic acid gas applied internally to the bladder; and after thus operating on eight occasions at intervals of a day and two days, she was quite relieved, and I believe has continued so ever since. During its administration, she experienced a hot and burning sensation, through the pelvis, a feeling of distension in the bladder, together with a desire to pass water, all of which gradually subsided, leaving her much soothed by the application. A sense of debility and lassitude set in, and lasted for some days, but then disappeared. From the first operation, the desire to micturate became less in frequency, and finally ceased altogether.

Case II.—Mrs. D., aged about 70, of a highly nervous temperament, came from a distance in the country to consult him, being strongly impressed with the idea that she was suffering from cancer. She had consulted many, both at home and elsewhere, but without any benefit, and Dr. Johns failed to give her the most trifling relief so long as he depended entirely upon medicine given by the mouth. She had all the symptoms of an ulcer at the neck of the bladder, and suffered much from pain and tenderness in that locality, as also from a constant desire to pass water, particularly at night, having been disturbed so often that she could not count the number of times. After seven applications of carbonic acid gas into the bladder, at intervals of two and three days, these unpleasant symptoms left her. During the operation, she appeared to suffer greatly from over-distension of the organ, and of a burning feel through the pelvis. She was confined to bed for some days from debility and lassitude, which she attributed to the treatment, which was for that time suspended, but she most willingly submitted to it again, as she said she began to feel better from the first application. The last time he saw her, she was walking stoutly, and expressed herself as well as ever.

Case III. was one of a female past the middle age. When Dr. Johns first saw her, she had all the symptoms of stone in the bladder, and on proceeding to examine her, he found a portion of a stone, of about the size of a lupin seed, impacted in the urethra, at its orifice, where it evidently had been for days. He at once extracted it; and in about two or three days after, sloughing set in at that part, but gave way to treatment by chlorate of lime lotion. In ten days from this period, a fungus sprung up in this locality, which he removed by a scissors, and subsequently cauterized the part from which it grew with solid nitrate of silver. From the commencement she suffered extremely from pain in the bladder near its neck, and in the track of the urethra, which locality was much thickened, was very painful to the touch when examined per vaginam, and gave the idea of some deposit, perhaps cancerous, in its inferior wall. Incontinence of urine was a very troublesome symptom with this patient, and this secretion was heavily laden with pus, blood, mucus, and sand. She had medicines ordinarily given under such circumstances, but without any effect, when recourse was had to carbonic acid gas, as in the former cases, which completely removed the pain and the incontinence; but the latter has since returned, yet in a minor degree. On one occasion, she passed from the bladder a mucous cast, as it were, of the entire viscus. The smell from the urine was almost intolerable, and the metallic catheter which Dr. Johns used was so stained that with much difficulty it was cleaned. The blood had entirely disappeared, the quantity of pus, etc., was now vastly diminished, the fetid smell was all but removed, and the catheter was very triflingly acted upon. The tenderness along the urethra became very much less, as did also the thickening, and the catheter when passed into the bladder could be felt very plainly through the vagina, which at first was not possible from the size of the tumour which existed in that locality. Dr. Hayden, Professor in the Catholic University, examined some of the urine under the microscope, and gave the following opinion: "It contains a multitude of large cells of various shapes, but principally circular, each containing from one to three nuclei; some of these cells are elongated at the opposite ends, so as to present a bi-polar appearance. There are besides several crystals of the triple phosphate of ammonia and magnesia, a group of

needle-shaped crystals of lithic acid, blood corpuscles and escaped cell-nuclei, and epithelial scales. Without pronouncing positively on the nature of those cells, I rather incline to the opinion that they are of malignant origin." The gas when sent into the vagina relieved the painful tenderness in the urethra, particularly when combined with chloroform, and she said the sensation produced was agreeable. She complained of weakness for a day or so; but then she said she was better in every way, and asked for the gas to be used with her. In this case, as in Case I., Dr. Johns injected the bladder each day with warm water prior to using the gas.

Latterly, previous to using this gas, Dr. Johns washed out the bladder well with warm water by means of a large India-rubber bag, with a stopcock and a double female catheter, with a plug made to fit each tube at pleasure. It is like the ordinary double male catheter, only being shorter and less curved.

When first experimenting on this gas he used a common bottle, which he very soon discovered to have many disadvantages, such as loss of time, loss of gas, and thereby inefficient action, etc. He now uses a round bottle, the body being eight inches and a half in circumference by three inches high, furnished with two necks—one in the usual place, and the other set obliquely beside it; the latter is closed by a ground-glass stopper, which is kept in its place by wire, that it may not be forced out by the gas. Through a cork placed in the central neck passes a metal tube with a stopcock, to the extremity of which is attached a vulcanized India-rubber tube for conveying the gas to its destination. When it is advisable to pass it into the vagina, the free end of this tube is slipped over a bone tube, furnished with a gallery, such as is generally attached to India-rubber bags for injecting that passage; but when the bladder is the viscus to receive the gas, a catheter takes the place of the tube, and in such cases he prefers the double instrument already described, as when our patient complains of the feeling of over-distension, which absolutely takes place, as appreciable by the hand externally applied, we can at once relieve her by removing the plug from the tube, through which the gas is not passing, as we thereby allow its free escape from the organ. When using the single or ordinary female catheter, he could not do so without withdrawing the instrument, and consequently stopping the operation. This great inconvenience led him to seek for some appliance capable of producing the desired effect. Suspended in the bottle is a piece of sponge, which serves to fulfil the twofold purpose of rendering the gas less stimulating by freeing it in its transit through of any particles of the salts it may be carrying along with it, and of acting as a medium by which the vapour of chloroform may be combined with the gas and conveyed along with it.

In some cases the pain produced by this gas is almost intolerable, whether sent through the vagina or into the bladder; it is of a burning character, and becomes diffused throughout the entire pelvis, sometimes causing great desire to micturate, but this gradually subsides and soothes. Almost invariably relief, be it never so trifling, is obtained after the first operation. Dr. Bernard has seen the local administration of this agent produce the symptoms of asphyxia from charcoal, such as headache, giddiness, buzzing in the ears, dimness of sight, constant drowsiness, sickness of the stomach, general lassitude, with very great debility for some days, hemorrhage, and incontinence of urine; but that in the cases in which those occurred, the patient was suffering from engorgement of the cervix uteri, and the gas was employed twice or thrice daily; still, that always those unpleasant symptoms set in after the first application. Dr. Johns has never met with any of those disagreeable accompaniments, except lassitude with debility, but he has seen hemorrhage and incontinence of urine checked by its use.

Dr. Johns, in opposition to some high authority, strongly reprobates its use in the induction of premature labour, as we may thus inject it into the veins, and thereby cause sudden death, which occurred in a case not very long since in Dublin, in which it or air was employed.

From the advantages he has seen derived from this remedy in irritable and other diseases of the female bladder, Dr. Johns recommends its trial in like affections in the male.

The following conclusions are, he thinks, fairly deducible from what experience he has had of carbonic acid gas:—

1. It is eminently useful as an anæsthetic and curative means in certain diseased states of the female bladder, when injected into that organ.
2. It gives much relief in the painful sympathetic and organic affections of the uterus and neighbouring organs when applied per vaginam.
3. It is likely to prove beneficial in diseases of the bladder in the male when similarly employed, and is deserving of trial in such cases.
4. Hemorrhage and incontinence of urine are by no means barriers to its employment.
5. Being a dangerous means of inducing premature labour, its use is contra-indicated for such a purpose.
6. It is useful as a means for conveying the vapour of chloroform to painful parts.
7. When debility and lassitude are caused by its employment, its use ought to be suspended till those symptoms disappear.
8. In general one day ought to be permitted to elapse between each application of the gas.
9. It acts as a disinfectant, and removes the bad smell from the urine.
10. It acts better on the bladder when that viscus has been previously well washed out with warm water.—*Dublin Med. Press*, March 10, 1858.

51. *Iodide of Potassium for Dispersion of the Milk.*—M. Roussel, the Professor of Clinical Midwifery at Bordeaux, having observed the effect of iodide of potassium in diminishing the milk when given in the non-puerperal condition, resolved to administer it in cases in which the dispersion of this secretion was desirable. A woman, who suffered from bad chapped nipples, had great and very painful engorgement of the breasts, attended with much fever. The iodide was given, and by the next day the pain and fever had disappeared, its employment for three days rendering the cure of a tumefaction that threatened abscess complete. M. Roussel has since then tried it in twenty cases, and always with success. After the cure, the milk returns again two or three days after the suspension of the iodide. Its action is more decided in the dose of from six to eight grains per diem than when given in larger quantities. The excessive secretion of milk may be prevented or moderated by administering it on the first or second day after delivery.—*Gazette des Hôpit.*, No. 75.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

52. *Death from Swallowing Oil of Turpentine.* By John Maund, M.D.—The following case seems worthy of recording, from my being unable to find any published account of death occurring from swallowing oil of turpentine. Christison, when speaking of this subject, says: "I am not aware that it has ever proved fatal." Taylor states: "I believe there is no case on record of destruction of life by turpentine." Other authors seem to agree in the same opinion; and neither Beck nor Guy, in their works on Medical Jurisprudence, treat of turpentine as a poison. From such testimony it evidently is manifest, that death occurring from its administration must be very rare. Pereira and Christison both mention, on the authority of Professor Schubarth, "that two drachms of this oil, administered to a dog, produced immediate staggering, cries, tetanus, failure of the pulse and breathing, and death in three minutes."

Being anxious to ascertain if such effects were by any means constant, the following experiments were made:—

1st. To a moderate-sized dog half an ounce of oil of turpentine was given; this produced, immediately, quickness of breathing, increased flow of saliva, frequent but ineffectual attempts to vomit, giddiness, and appearance of intoxi-

cation. The whole of these symptoms passed off in twenty minutes, and the dog appeared little worse for the dose.

2d. To another dog was administered two ounces of oil of turpentine. Similar symptoms to those before described immediately occurred; in addition, there was shaking of the limbs, and a greater amount of general prostration. Half an hour afterwards drowsiness became a prominent symptom, and the giddiness seemed to have increased, so that the dog could with difficulty stand. The eyes were much congested and everted, so that scarcely any portions of the cornea could be seen. The countenance presented the appearance of suffering and depression. The dog lay down on its side; frothy sputa kept running from the mouth, and the animal seemed to be dying; still consciousness was never totally lost, for its attention could, though with difficulty, be attracted by speaking loudly, or by touching it. The following morning the dog seemed much better, and it gradually recovered from the effects of the turpentine.

3d. To a third dog three ounces of oil of turpentine was administered. For the following quarter of an hour the only effects manifest were quickness of breathing and increased flow of saliva; giddiness and general intoxicating effects then supervened; in half an hour the dog lay down on its side, with its legs stretched out, and, excepting that the eyes were not everted, presented much the appearance of the second; and on the following day it gradually recovered.

4th. To another dog four ounces of turpentine were then given. This, in two or three minutes, produced great excitement; respirations were 108 per minute; clear saliva kept streaming from both sides of the mouth; but no giddiness or sleepiness, as in the other cases, occurred. Half an hour after the turpentine was administered, the dog broke his cord, and ran about as if greatly excited; but he would come when called, and appeared perfectly tractable and docile.

From these experiments it would appear, that the effects of oil of turpentine on dogs, described by Schubarth, like the following case of poisoning in the human subject, must be the exception, rather than the rule.

The following account of a case of suicidal poisoning by oil of turpentine I abridge from the depositions taken at the coroner's inquest, and from information that I obtained at the time of making the *post-mortem* examination.

E. H., a female of thirty years of age, and healthy appearance, had for some months been living with a man as housekeeper and mistress, but, from his signifying his intention of leaving her, she became low spirited, and for a few weeks before her death indulged freely in the use of stimulating drinks.

On the day of her death, a neighbour with whom she was intimate called to see her; she then appeared well, though a little excited, but by no means intoxicated. While conversing with the deceased, she noticed a soda-water bottle, which she took up, as she thought it contained gin; at that time the bottle was nearly full, and contained turpentine. At the request of the deceased, she went to fetch her some meat from the butcher's; on returning shortly afterwards, not finding her in the kitchen, or answering when called to, she put down the meat and left the house. Four hours after this witness had left her, she was found dead, the meat and other things about the room being in the same order as the witness saw them when she returned with the meat.

The position of the body, which had not been moved when I saw it, about forty hours after death, at once suggested to my mind that death had occurred from strychnine, the results arising from which I am quite familiar with, having made four *post-mortem* examinations, within the last three years, when death had taken place from this poison. The deceased evidently, immediately before death, was sitting on the side of the bed, and when found, seemed to have simply fallen backwards across the bed. The legs were rigid, and stretched out before the body, and the soles of the feet were concave; the arms were bent across the chest, and great force was required to straighten or remove them from this position, the biceps muscles being forcibly contracted, and very hard. The body assumed the state of opisthotonos, and all portions of it were rigid, but thighs least so. The eyes were open and prominent, and

the pupils slightly dilated; the jaws were fixed, and could not be opened; the skin generally, was pale, but of a livid hue in places, particularly about the head. The general appearance of the body was such as to give the idea that death had occurred suddenly from tonic spasm. There was no derangement of the dress or bedclothes to indicate convulsive action, and no external marks of violence. An empty pail was found on the floor, close to the deceased, which probably she had placed there in case sickness should occur.

The internal organs of the body presented the usual appearance of a person dying from asphyxia. The membranes of the brain and upper portion of the spinal cord were found greatly distended with very dark-coloured blood, of a sizy consistence, but it had no unusual smell. The brain was not softer than natural, but was, to a less extent than its membranes, congested with blood of the same character. The mucous membrane of the trachea was rendered quite arborescent by the ramification of a network of distended vessels, but in the interstices the membrane was of the usual colour. The lungs were gorged with blood of the same dark appearance as was found in the membranes of the brain. The cavities on the right side of the heart were distended with blood; the left also contained a small quantity of blood; in both sides it was of equally dark colour. The liver and kidneys were congested, but to a less extent than the organs before mentioned. The bladder was empty, and firmly contracted, but appeared healthy. The stomach and bowels were the last part examined. Immediately on the stomach being opened, a most powerful smell of turpentine became evident, which had not before been recognized; this organ contained a small quantity of thick fluid, which had the appearance of an emulsion made with turpentine and mucilage. The duodenum and upper portion of the jejunum were considerably congested, and the smell of turpentine was evident in all portions of the intestinal canal.

A further examination of the stomach and its contents showed that the mucous membrane was congested, and several very large vessels, injected with dark blood, were found passing from the cardiac to near the pyloric extremity; and in several places close to these vessels small ecchymosed patches existed. The contents of the stomach amounted to three ounces; it was of a semi-fluid character, and globules of what appeared to be oil of turpentine were seen to be intermixed with the more tenacious contents. Distilled water was then added to it, and thoroughly mixed together; three hours afterwards there was found swimming on the surface a limpid fluid, which was removed with a pipette, and was found to consist of oil of turpentine, of which there was six drachms. The remaining contents of the stomach were then examined for strychnine, but none was discovered in this, the parietes of the stomach, or mixed with the turpentine which had been removed. Under the microscope the solid contents were seen to consist chiefly of wheat and potato-starch corpuscles.

The house was carefully searched as soon as the deceased was discovered, to ascertain if poison of any kind could be found, or if any vessel was soiled by any unusual fluid; neither, however, could be discovered. The bottle containing turpentine was found on the shelf, where the witness said she saw it, before leaving to fetch the meat for the deceased. The quantity removed from the bottle was about six ounces; whether the whole of this was swallowed, it was impossible to ascertain, but it seems highly probable that the portion taken was drank directly from the bottle. No smell of turpentine in the house, or suspicion of its having been taken, existed till the stomach was opened.

The deceased, it seems, had several times hinted that she would destroy herself, but this threat did not appear to have excited any serious apprehension that she intended carrying it into effect.—*Dublin Hosp. Gaz.*, July 1, from *Australian Med. Journ.*

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53. *Rupture of the Spleen.*—Dr. George R. Playfair, in a communication read before the Med.-Chirurg. Society of Edinburgh (*Edinburgh Med. Journal*, April, 1857), states that during two and a half years' residence in India, twenty cases of ruptured spleen came under his notice. "A person," he remarks, "with an enlarged spleen holds on to life by a very slight thread, for a blow which would

not injure an infant may in him cause death. I have known it produced by a slap with the back of the hand, a push, a slight fall, and in one case the cause appeared to be a sudden violent contraction of the abdominal muscles. The result of a rupture is invariably death, for this lesion is as certainly fatal as cutting the carotid. In all the cases which came under my notice, the fatal termination occurred within a very short period after the infliction of the external injury. The shortest time I remember was between two and three, the longest about twenty minutes; the average, I should say, not more than seven or eight minutes; the time varies with the extent of rupture. The external appearance of the body after death is quite characteristic of the lesion—the whole surface blanched, the abdomen distended and tense, with distinct fluctuation. On opening the abdomen, you find the cavity filled with fluid, dark-coloured blood. After removing the blood, great care is required in handling the spleen, as, from its softness, you may easily produce a rupture in addition to, or in extension of, the injury which was the cause of the fatal hemorrhage.

"The rupture varies greatly both as to extent and position, and I have more than once been puzzled to account for the degree and locality of the lesion, with reference to the external violence which was said to have caused it. The largest was nearly three inches long on the convex surface; the smallest, a minute opening near the root of the organ. I have seen it as it were a notch on the lower edge, or a rupture of considerable size on the concave or inner surface."

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54. *Poisoning by Conium Maculatum.*—Much diversity of opinion exists as to the symptoms which a poisonous dose of conium maculatum produces; to settle this question Dr. T. Skinner records (*Liverpool Medico-Chirurgical Journal*, July, 1858) five carefully observed cases of hemlock poisoning. The subjects were children from five to eight years of age.

Dr. S. draws the following conclusions as to the symptoms and physiological actions of a poisonous dose of conium maculatum:—

"Great dryness of the fauces, with a feeling of constriction of the pharynx; in a few instances slight headache, muscæ volitantes, diplopia, languor, and inclination to sleep, pupils dilated, face livid, pulse small and weak, heart's impulse very weak, respiration subdued, surface of body cold, general paralysis of all the voluntary, and ultimately of all the involuntary muscles; those of deglutition being the first, and respiration the last to fail. At the time of the general paralysis coming on there is more or less coma, collapse, or a condition between the two; there is foam from the mouth, and death is apparently the result of coma. Purging and vomiting have repeatedly followed its medicinal use; I believe this, however, to have been an accidental result. Convulsions, furious delirium, intoxication, epileptic fits, and similar symptoms, have not been observed by competent witnesses in this country, and I do not think that we are entitled to take the opinions of observers in other countries in regard to the poisonous properties of indigenous plants, since a plant may be poisonous in one country and inert in another.

"I think I am justified, then, so far as my own cases are concerned, in considering conium a purely narcotic poison, void of acridity, and not specially affecting the functions of the spinal cord. That its effects are exactly similar to those produced by morphia and its salts, excepting that it dilates the pupil, and the stertor is not so marked; and this view is corroborated by the *post-mortem* appearances found in fatal cases. It will be remembered in my first two cases, that the brain was the first organ affected, and the paralysis of the legs never appeared, as the children ran home, and then complained of sleepiness, and desired to be put to bed."

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Additional Remarks on Dynamoscopy. By J. M. F. Gaston, M. D., of Columbia, S. C.*

In illustration of the view, that the sounds which fall within the province of dynamoscopy result from the passage of the blood through the capillaries, I have examined three cases of paralysis of the arm of dissimilar origin and very difficult in their character. One was the result of an apoplectic seizure, in which hemiplegia ensued, leaving the circulation in an almost normal condition, while motion and sensibility were extinct in the left superior extremity. In this case there was no muscular contraction of any kind whatever, and yet the sound was very distinct at the end of the finger of that hand. This would lead to the inference that the circulation was the source of the sound, and as it is known that the vitality of a limb is not materially lessened by paralysis of this kind, it is plain that a nervous function must be extended to the circulation even when motion and sensation are lost, and this belongs to the original system of nerves which is more immediately related to the power of the organization respecting which this new inquiry is concerned.

The second case which has been under observation, is one of long standing paralysis connected with some rheumatic features in the subject. Partial hemiplegia of the left side, involving both the leg and arm, has been present for a number of years, and the left arm hangs useless at the side, though there is sensibility in the limb. In this case there does not seem to be any material deviation from the standard of healthy action in the circulation, and yet I suppose the long continuance of this inert condition, with contraction of the tendons of the fingers, would manifest less evidence of capillary action. My anticipation was to some extent realized, and yet the sound was entirely perceptible in the fingers of the affected limb, indicating that the flow of blood was sufficient to give this sign of vital action in the part. Had the sound depended on muscular action, we could not have expected it to be heard in such a case as this, when no evidence of the muscular contractility had been present for so long a period.

The third instance to which I wish to draw attention is one of so much interest within itself, that I will give a more detailed account of the circumstances of its origin and progress. It was a local paralysis of the left arm without any general impairment of the physical organization, in which all power and sensibility were extinct, and in which at the outset there was no evidence of pulsation in the arterial trunk or branches which supply the circulation to the limb.

On the 20th of April, 1857, I was called to this subject, who was a negro man of robust frame, engaged on the railroad near Columbia. He had been crushed by a bank of earth, which lay upon him, with his arm beneath his body, for a considerable time. He was excavated in an almost suffocated

* This addition to Dr. Gaston's paper in the present No. (see p. 360) was received too late to be inserted in its proper place.—Ed.

state, and brought to the city, when I discovered that no motion, sensibility, or pulsation was present in the limb; and indeed it was necessary during that night and next day to resort to artificial means to promote the flow of blood from the veins, and thus invite the supply by the arteries as there appeared to be a degree of stagnation in the circulation incompatible with the life of the part. The cause of this suspension of pulsation must be involved in some degree of obscurity, but the solution of it may throw some light on the important subject of the arterial action, in the causation of the pulse, and hence it is proper to investigate closely every point connected with it. To make the case understood it may be stated here that the absence of pulsation was a characteristic feature of the limb for several weeks. Why was no pulse to be detected while the blood evidently did find its way slowly through the arteries into the veins? Had the artery been compressed so as to agglutinate its sides, the blood could not have passed; or if a clot had formed in the trunk from the protracted pressure at the axilla, no flow of blood through the vessel would have followed. Or if we suppose that the channel of the vessel was reduced very much at the point of pressure, can it follow that the small column which is transmitted should not have the pulsation imparted to it? This view seems the most available for explanation of any, looking to the direct injury to the arterial trunk; and yet it is not favoured by analogy of suspension of pulsation under partial occlusion of the trunk of an artery, nor was the diminution of flow so great as to induce the conclusion that any considerable obstruction existed.

The explanation which appears to me most plausible and satisfactory, refers the difficulty to the local injury of the nervous supply of the limb, from the long continued impaction of the members under the weight of the mass of earth which covered the patient. The head of the humerus was turned forwards and inwards so as perhaps to be pressed out of the glenoid cavity of the scapula for the time, owing to the pressure, of which there was ample evidence, in the posterior aspect of the shoulder. The nerves were compressed between the head of the humerus and the clavicle or upper ribs to an extreme degree, and hence undoubtedly resulted the paralysis of motion and sensation. Is it not then unphilosophical to infer that the organic nerves which go to keep up the pulsation of the arterial circulation were affected in like manner, and that the absence of the pulse followed such an impairment of nerve power? I foresee the consequence of such a solution in the recognition of an actual action independent of that of the heart, and when facts lead to a correct induction there is no more reliable conclusion. In this point of view, the case under consideration is perhaps without a precedent, and the particular features of it are calculated to elucidate this subject of arterial pulsation, as no other physiological or pathological data are on record.

After one month of continued absence of pulse, the radial artery began to manifest some pulsation; and at the end of two months he was attacked with measles, in which excitement the arterial development of the affected arm seemed to participate, and the pulsation was more distinct than previously, and the eruption over the surface seemed to be as full as elsewhere. The sensation was somewhat restored along the inner portion of the arm as low as the elbow, but there was no sensibility to pinching or pricking or any other irritation along the forearm or hand, and there was no power of motion in any part of the limb at any time subsequent to the injury. The muscles were in a state of flaccidity, and the member had become diminished in size from want of use and deficient nutrition. Twelve months after the compression of the part the circulation was very deficient in pulsation, and it was thus

examined for dynamoscopic indications, when I found very little of that peculiar sound at the end of the fingers which was distinct and full on the sound hand. Here, then, was a case in which the weak circulation with scarcely a well-defined pulsation, was characterized by a deficiency of that peculiar sound at the ends of the fingers which is found to be well marked in the healthy state of the organism, and I take it, as very strikingly corroborating my view, that these sounds are caused by the propulsion of the blood through the capillary vessels in the extremities of the part examined. This limb was subsequently amputated as useless.

If we undertake a long brief analysis of the three cases, it will be noted that all were equally deprived of the power of motion; and hence, if muscular contractility was a *sine qua non* of these sounds, they should not have been observed in any of the cases. Yet they were perceptible in each, but most defective in the instance of impaired circulation, and seem there to bear a direct relation to the tone of the circulation.

This renders the subject of dynamoscopy of considerable importance, as affording a clue to the vital forces of the organism. And my own conviction is, that a close investigation of the bearings of this organic indication will conduct the medical inquirer to the most satisfactory information as to the power and capacities of the different subjects who require medical treatment.

Muriatic Acid in Scarlet Fever; Caution in regard to the Use of Calomel. By RICHARD MCSHERRY, M. D., of Baltimore, Md.—Some years ago, pending the preparation of the chlorine mixture as recommended by Dr. Watson, I gave to children affected with scarlet fever small doses, from one to three drops, of muriatic acid, largely diluted with water. I was more pleased with its effects than I ever had been with the chlorine mixture; and I have since continued to use it with the most gratifying success. The dilute acid is readily taken by children, and cleanses the throat effectually in its passage, thus superseding, to a great extent, the necessity for gargles, injections, &c. I give my little patients oranges to eat, and lemonade to drink, keep up faithfully a surface inunction, and use habitually little other medicine than the acid. It may be necessary to clear out the *primæ viæ* by an emetic or an aperient, or both; but I have long since given up the use of *purgatives* as not only improper, but very dangerous. A single dose of calomel may be well in the beginning, but no acids should be given with it, or should even follow it speedily. The physician must have forgotten the very *principia* of his profession, who would give muriatic acid, or chlorine in any form, with mercury; though Dr. Wood tells us he has heard of a fatal case where calomel and nitro-muriatic acid were given conjointly. The danger from the association of the vegetable acids with that drug is not so obvious, and may therefore be overlooked. But it has happened that the *vegetable acids* have converted calomel into a more dangerous form of mercury; and a fatal case is recorded merely from its being given in that very popular vehicle, currant-jelly. "Un enfant qui avait pris du calomel sur une tartine de gelée de groseilles, a succombé au bout de quelques heures à un empoisonnement par le bichlorure de mercure; en effet, par suite du contact de l'acide citrique contenu dans le gelée de groseilles, le protochlorure de mercure s'était transformé en bichlorure." (Cited by M. Wahn.) The practical physician should not let such an instance as this escape his memory.

Experiments with Bibron's Antidote to the Poison of Reptiles. By E. M. WALKER, M. D., of Gonzales, Texas.—Believing that too much evidence

cannot be had upon the efficacy of Bibron's antidote to the poison of reptiles, I forward my experience with it.

I was called, on Wednesday night, 30th June, 1858, to Benjamin Watkins, æt. 35, who had been bitten over the metacarpal bones of the third and fourth fingers of the left hand, on the Sunday previous, by a black moccasin or cotton-mouth of the south, a variety of the *trigonocephalus piscivorus.* The family being absent, he took a pint bottle of whiskey, and after drinking some of it, started to a neighbouring house—fell to the ground after walking about a half mile; arose and made another effort to proceed on the way, fell a second, and a third time; after which he was unable to rise again. He remained where he last fell, in the sun, without water, from about 11 o'clock A. M., until 6½ o'clock P. M., when he was found and carried home. He drank about a pint of whiskey during the day; had some nitrate of potash administered Sunday night. Tuesday had some tea from the curcle burr, with various kinds of poultices to the hand and arm. When I saw him, he was delirious, with occasional lucid moments; pupils much dilated; bathed in profuse perspiration; pulse 120, and very feeble. The hand very much swollen, with some sloughing, and immense sanious discharge. Forearm and arm swollen, with much purple discoloration, and extensive abrasions along the belly of the "biceps flexor cubiti," with sanious discharge. The muscles of the whole chest, back and front, were much swollen, and very tender to the touch, with purple discoloration over the pectoral, deltoid, and scapular muscles of the left side, and dark purple appearance from the clavicle to the ilium of the right side; his breathing deep and very laboured. Gave him in ℥ss whiskey, Bibron's Antidote, gtt. xx; in thirty minutes repeated the same dose, immediately after which he vomited a quantity of white frothy fluid. In an hour repeated the same dose, immediately after which gave him sulph. morphia ¼ grain. Patient continued quite delirious about an hour, when he went to sleep, awaking in two hours. Delirium subsided. Pulse 110. Breathing somewhat relieved. Left him, then, about sunrise. Ordered sulph. quinine gr. iij; camph. pulv. gr. iij; to be given every six hours, and the sloughing and abraded parts to be dressed with charcoal poultices, and all the swollen parts to be bathed frequently in salt water. Having to leave the county for a few days, I procured the services of Dr. McKay in the case during my absence. He continued the treatment two days, when, finding the patient with a furred tongue, gave him a mercurial, and substituted iodide potassa gr. iij, three times a day, for the quinine and camphor, and a stimulating ointment for the poultices, to the sloughing parts, and Lugol's solution of iodine in place of the salt bath to the swollen parts. I saw the case again on Wednesday, July 7th. Continued the iodide potassa. Substituted the charcoal poultice with the addition of a solution of creasote for the stimulating ointment, and suspended Lugol's solution. On Saturday, 10th July, the abrasions on the arm had healed—the sloughing of the hand had extended all over the third and fourth fingers, over the second, third, and fourth metacarpal and unciform bone, on the dorsal aspect of the hand, and all over the palmar surface of the hand extending back to the radio-carpal articulation. In connection with Dr. McKay, amputation of the forearm was determined upon, which I did, performing the double flap operation in the lower third. On the 18th day after the operation, the patient was riding over the country, with the stump entirely healed. Upon examination of the wrist-joint after amputation, found about a drachm of pus in the synovial sac. I think no one can attribute this recovery to any other agent than the bromine compound of Prof. Bibron.

Gonzales, Texas, *Aug.*, 1858.

Convulsions after Delivery—Constipation—Capsicum given in Enema—Recovery. By G. W. YEAGER, M. D., of Mercer, Pa.

August 16th, 1858. Mrs. P., aged about 25 years, rather below the medium size, but of good form and health, was delivered of her second child at the full time, after an easy and natural labour. The placenta came away thirty or forty minutes after the birth of the child—the bandage was applied as usual, and everything appeared as satisfactory as in any case I ever attended when I left her at eleven o'clock P. M., after giving the usual directions, and leaving some compound cathartic pills to be used if the bowels should not be moved at the end of about twelve hours.

In the morning, eight hours after I had left, I was summoned to see her in haste, with the report that she was dying. I found her just recovering from a convulsion, and although somewhat confused and complaining a little of her head, she was cheerful, and in a short time was apparently well—the uterus firmly contracted and normal both to external and per vaginal examination.

On learning the bowels had been costive for several days, I gave four of the pills, and ordered them to be followed at intervals of half an hour or an hour, with salts and senna, until they should be relieved. As I was about leaving her thus apparently well, and without a single unfavourable symptom, she was suddenly and without premonition, taken with another convulsion, during which there was violent opisthotonos, and her tongue was much lacerated in spite of measures taken to prevent it. The paroxysms which now occurred at intervals of about twenty minutes, simulated precisely those of epilepsy. There was insensibility and jactitation in the intervals. When she became comparatively quiet, after the second fit, I bled her from the arm to about twenty ounces—applied large sinapisms to the feet and legs—kept the head wet with cold water, and gave enemata of turpentine in solution of soap, &c., and with difficulty gave small doses by the mouth, of salts and senna.

The paroxysms or exacerbations recurring without melioration; the conjunctiva injected; the insensibility amounting almost to coma, and the often repeated injections producing no effect, Dr. James Magoffin, my old preceptor, was called in consultation, at whose suggestion the venesection was repeated to about one pint; the sinapisms continued and also applied to the back of the neck, the hair clipped, and spirits and water applied to the head, and an enema of *one drachm of capsicum* in six ounces of water administered. Within five minutes there was a very copious and very fetid evacuation from the bowels, when she immediately became more quiet, though still insensible, and was able to swallow a mixture containing five grains of camphor and one grain of opium, which was repeated in an hour, and afterwards at longer intervals.

The bowels were freely moved several times within twelve hours by the same injection, to which they promptly responded, but appeared insensible to everything else. The patient never had a paroxysm after the first evacuation from the bowels was procured; the insensibility wore off entirely in twenty-four hours, and in the usual time she was well.

The patient had never been the subject of fits at any period of her life.

What I deem of especial interest in the foregoing case, is the peculiarity of the injection (capsicum) suggested by Dr. Magoffin, and which I believe not to have been hitherto employed. If it give, on further trial, the satisfaction which can be fairly anticipated from its effects in this case, we will have obtained what the profession must long have considered a desideratum. I

will add nothing more in relation to the *modus operandi*, &c. &c., of the medicine, but it may not be improper to remark, that there has been no complaint of unusual pain or soreness of the rectum.

Case of Poisoning by Seidlitz Powders.—Reported by WILLIAM P. BUEL, M. D., Surgeon Pac. Mail Co.

In the month of June, 1855, I was the medical officer of the steamer *Empire City*, then employed in the transportation of the California mail and passengers between New York City and Aspinwall, N. G.

While on the voyage from N. Y. to the latter place, I was summoned one morning early, before I was out of bed, to see two steerage passengers, represented to be taken suddenly and violently ill, and alleged to be dying. Hurrying to the spot, the first object that presented itself was a man of middle age, whom I shall call A, walking about the deck supported between two other men, making violent convulsive movements with his arms and legs; uttering at the same time, groans and cries of distress. Pausing for a moment to inquire what had occurred, I was entreated by the by-standers to go to the relief of the other man, whom I shall call B, said to be very much worse. I found B lying on his back, prostrate upon the deck, in the most violent tetanic spasms. His face was pallid, bathed with cold perspiration, with an expression of extreme agony. There was a momentary intermission, and the patient, who was perfectly rational, asked me if he must die. I placed my finger for a moment upon his pulse. It was not greatly accelerated, nor different from natural. This momentary lull was followed by another and more violent spasm of the extensor muscles, accompanied with piercing shrieks, or rather yells of agony. It was apparent that whatever was to be done for the man's relief, must be done quickly. There was no time for question or investigation. I ran as quickly as possible to my medicine case for a bottle of chloroform. Was absent not to exceed one minute, but on my return the man was perfectly dead. During my momentary absence the spasm increased in violence, and, uttering a frightful yell, B expired.

I then directed my attention to A, still violently convulsed, but able to speak. He told me that about fifteen minutes previously, himself and B had each taken a Seidlitz powder from a box A had brought with him in his trunk. Their stomachs were perfectly empty, neither having swallowed anything, unless perhaps a little water, since supper the day previous. With the exception of being a little costive, both were in their usual health at the time. Both were rugged-looking men of the labouring class, and of middle age. B *complained very much of the bitterness* of his powder. Said it was the first he had ever taken, and that it should be the last. In a few moments after taking the powder, both were seized in the way I have described.

I lost no time in administering to A large doses of ipecac. and sulph. zinc with copious draughts of tepid water, aided by mechanical titillation to the fauces. Profuse vomiting followed with relief of the symptoms. A large dose of castor oil was then given, followed immediately after its operation by a full anodyne and sinapism to the abdomen and extremities. Next day A was walking about, but complained of debility, and muscular soreness.

I obtained from A the box from which the powders had been taken, with the remaining powders. They were of the ordinary appearance, not very neatly prepared. The box had no label. It had been obtained in Providence, R. I.

On our arrival at Aspinwall, I went with A before the American Consul,

where he made his affidavit to the facts above stated. The box was placed in an envelop, sealed with the consular seal, and left in my keeping.

On my return to New York, the box, with the affidavit, was sent to the Mayor of Providence, with a request that a proper investigation might be made into the cause of the death of B, a citizen of Rhode Island. I was afterwards informed that the remaining powders were submitted to a strict chemical analysis by the Professor of Chemistry in Brown University, but without any satisfactory results. Nothing was found which could throw any light upon this sudden and violent death. I did not learn that any experiments were tried upon animals to ascertain if the remaining powders retained any poisonous quality.

Remarks.—1. The death of the man man B was unquestionably caused by the Seidlitz powder, or something it contained. It could be attributed to no other possible cause. No food or drink had been taken for hours previously.

2. The ingredients which enter into the composition of Seidlitz powders, tartaric acid, bicarbonate of soda, tartrate of potass and soda, are perfectly harmless, and by no possible reaction between them or any of their elements could ever become poisonous.

3. Some foreign substance introduced, whether by accident or design, into the powder, must have caused the death. The reader will have observed that the symptoms point strongly to strychnia. The intense bitterness complained of by B favours that idea. It is difficult to imagine how strychnia could have been accidentally introduced. Oxalic acid is a violent poison, and that by a blunder it might have been substituted for tartaric, is not so improbable. But the symptoms were not those of oxalic acid poisoning. On the whole, the conclusion seems to be inevitable, that B's death was caused by strychnia mixed with a Seidlitz; but how, will probably remain forever a mystery.

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Successful Case of Ovariotomy performed by Dr. Hazard A. Potter. By CHARLES N. HEWITT, M. D., of Geneva, N. Y.

I herewith transmit the record of a case of ovariotomy. The operation was performed by my partner, Dr. Hazard A. Potter, and I had charge of the patient up to the fifty-first day, when she was discharged.

Mrs. E. S., æt. 25 years, mother of one child, æt. 15 months.

History.—The patient was confined in January, 1857, and had a severe, but natural labour. Menstruation was resumed in April, and continued profusely for two days, and then suddenly ceased. The cessation was followed, not long after, by morning sickness, sharp lancinating pains in the region of the uterus, and pains in the face and teeth. In the early part of June, she first detected a tumour of the size of a goose egg, a little above the pubis, and to the right of the linea alba. It increased rapidly, and about the middle of July she called her family physician, and stated to him her suspicions that she was again pregnant. Upon examination, he found the tumour of the size of a child's head, movable, and extremely tender. Per vaginam he found the os uteri high up and moving with the tumour, and she stated her sensations to be the same as were experienced in her first pregnancy. On the first of September the distension was so great as to include the whole abdomen. The pain caused by the pressure was severe and continued, and she was rapidly failing in health. Drastic cathartics were given, and under their use the distension was somewhat diminished. Once only did the tumour almost entirely disappear—on the 1st of February. It soon returned and

continued to increase until she was seen by Dr. Potter, on the 1st of April. At this time her general health was very bad. Appetite poor, digestion deranged, and her body extremely emaciated. She was unable to lie straight in bed, and her abdomen was more distended than it would be were she at the full time with child. It was so tender as scarce to bear the weight of the cloths.

Dr. Potter's diagnosis was ovarian dropsy, and he advised tapping as a sure means of diagnosis and at least of temporary relief. To this the patient consented, and inserting a trocar into the median line, midway between the umbilicus and pubis, he drew off a patent pail and a half of the peculiar ropy secretion of ovarian disease. It was of a pale reddish colour, and on examination proved highly albuminous. Applied broad bandage, and compress, and put her on the immediate use of iron and quinine. Her general health improved up to the 14th inst., although the cyst had attained its former size. On the 14th the operation was performed. The temperature having been raised to between 70° and 80°, the patient was laid on the table. Chloroform was administered, and Dr. Potter proceeded to perform the operation in the usual manner. The external incision in the median line below the umbilicus was about seven inches long. Carefully opening the peritoneum the tumour was exposed. He tapped it and drew off about 28 lbs. of fluid of the same consistence as before, but of a darker colour, more nearly resembling coffee. The cyst was now seen to be multilocular and irregular. Inserting his hand into the peritoneal cavity, he found two adhesions to the anterior walls. One quite extensive near the liver, another in the left lumbar region. These he separated with his hand. On withdrawing the tumour it was found to be of the left ovary, and attached to the uterus by a pedicle of the breadth and thickness of two fingers, as well as by the thickened broad ligament. Around the first a strong linen ligature was securely tied, and then silk ligatures were applied to as many divisions of the broad ligament. The tumour was then removed. On examination the uterus and right ovary were found of the natural size and healthy. The ligatures were left hanging from the lower angle of the external wound, which was closed by six sutures taken down to the peritoneum. Adhesive straps were applied, and a compress, which was retained in place by a corset bandage laced in front, and extending from the ensiform cartilage to the pubis. The patient rallied well from the effects of the chloroform, and was removed to bed. Ordered tinct. opii gtt. lx, in a little brandy and water. 10 P. M. Quiet; skin moist; pulse 120, and soft. Ordered sulph. morphia gr. ¼th. 2d day, 9 A. M. Slept pretty well last night, but feels tired this morning. Tongue coated and moist. Pulse 135, feeble. Skin covered with profuse cold sweat—is in no pain. Ordered sulph. quinia gr. j in a teaspoonful of brandy every four hours. 12 M. Some pain in bowels, colicky in its nature. No distension of the abdomen, nor tenderness except around the wound. Ordered sulph. morphia gr. ¼th every four hours. I was compelled to use this quantity of morphia because previous to the operation she had used it almost constantly for several months. Concentrated beef-tea to be given in small quantities as often as she will take it. 4th day, 6 P. M. Found the patient nearly in a state of collapse. Warm external applications, and brandy, and quinine were freely used, and she soon rallied. I found that, contrary to my express orders, she had been allowed to sit braced up in bed. The discharge from the wound is quite copious. Serum tinged with blood. Not much tenderness on person, except around the wound. Continue same treatment as before. 5th day. Slept well last night, comfortable this morning Relished

her broth. Slight fever; pulse 130. Allowed milk and water in equal proportions as a drink. 6 P. M. Signs of another collapse checked by stimulants. 7th day. Complains of severe griping pain last night and this morning in the course of the colon. There is no undue distension or tenderness of the abdomen. Tongue coated, light brown. Pulse 130, and hard. Ordered pill calomel, grs. j, opium gr. ¼th, every three hours till four are taken, followed by ol. ricini ℥ss. 10 P. M. Oil operated freely, bringing away a large quantity of hardened scybala and softened feces. Midnight. Feels better, and soon fell asleep. 8th day. Feels better this morning. Rested well last night. Slight improvement in the appearance of discharge from the wound, not so profuse, and of more consistence. Tongue clean. Pulse 115. Continue quinine and brandy with morphine ter die. 9th day. Improving. Secretion from the wound better; tenderness less. Sweating not so profuse. Ordered sponging with alcohol and tepid water with brisk friction, ter die. Slight chills during the day, and to-night noticed a rash upon face, neck, and chest, attended with much itching, and some fever. 10th day. Slept pretty well last night. Complains this morning of more pain in arch of colon. Ordered injection of milk, water, salt, and castor oil, which effected a free movement of the bowels with great relief. Rash has extended over entire body, but there is not so much fever this morning. Pulse 115. Tongue slightly coated. Continue same treatment. Discontinue use of alcohol and water. 12th day. Called Drs. Potter and Dungan in consultation. The eruption has concentrated upon the face, neck, chest, abdomen, and inside of thighs, but few traces of it elsewhere, and has advanced to the suppurative stage. In their opinion and my own, it bears every resemblance to varioloid, and we think it to be so. The patient is the only one of the family not vaccinated, and the contagion was probably brought to her in the clothes of her family physician, who had been attending a case a few miles distant. The eruption went through its regular stages, and had the effect to prevent suppuration in the wound till the 14th day, when it was established. At this time union by first intention had taken place in all of external incision except that portion occupied by the ligatures, and all the sutures were removed. Appetite good; allowed meat and some vegetable diet. Continue bath of alcohol and water, with brisk friction. Distension and pain in arch of colon continue. Ordered to diminish morphia to two doses, morning and night, and to take ʒjss of Tildin's f'd ext. rhei et sennæ at night. 15th day. Free, but gentle movements of the bowels this morning causing no pain. Continues to improve. 16th day. Slept well last night. Appetite good. Substitute for morphia the following: ℞.—F'd ext. valerian, ℥iij; f'd ext. hyosciamus, ℥j.—M. Dose, ʒss ter die. 18th day. Sat up in bed for an hour. Rapidly improving. Wound suppurating finely. Continue quinine in gr. j doses, ter die, in ½ wine glass of port; ʒj of ext. rhei et sennæ, at night. 24th day. Better. Bowels regular since 14th, without assistance. Continue quinine, and substitute for the port stock ale, ½ tumbler. 30th day. Removed two ligatures. Gaining rapidly. Some difficulty in urinating. Ordered: ℞.—Bals. copaiba, sp'ts nitre dulc., āā f℥j.—M. ʒj twice daily. Bowels regular, with occasional use of ext. rhei et sennæ. 34th day. Sat up in chair two hours to-day; did the same yesterday. Had free evacuation of bowels at 4 P. M., two hours after going to bed. At half past five suddenly attacked by severe pain in region of sacrum, and by rectal tenesmus. Relieved by warm anodyne fomentations to the parts. 8 P. M. Pain has shifted to the region of the wound. Suppuration checked. Pulse 130, and full. Tongue heavily coated. Ordered pill calomel gr. j, opium gr. ¼, every

three hours during the night, and poultice over entire abdomen. Midnight. Is easier. 35th day. Slept pretty well last night. Better this morning. Took three pills. No pain, but some tenderness of abdomen. Slight discharge from the vagina. 2 P. M. Bowels moved freely. 8 P. M. Slight mercurial odour in breath, and a little tenderness of the gums. Decided improvement in general symptoms. 36th day. Suppuration fully re-established. Still a little salivation; ordered ʒj f'd ext. rhei et sennæ, and gargle of alum water. Continue other treatment. 50th day. Patient has steadily improved up to this time. Is gaining flesh. Is stronger than she has been for months. Sits up in chair nearly all day. Two ligatures still remain attached, but they are excluded from abdominal cavity—are near the surface and are a source of no irritation. Decided to allow them to remain till they can be readily withdrawn. 51st day. Patient discharged. To continue cold bath, quinine ½ gr., morning and night in ale, and continue use of abdominal bandage. 60th day. Received long letter written by patient. She is rapidly gaining.

Remarks.—The particular point of interest in this case is the occurrence of the eruptive disease, and the total suspension of reparative action in the wound while that disease was at its height. I am inclined to the opinion that the aggravation of symptoms on the 34th day was caused by an attempt at the restoration of the menses. The cyst is deposited in the Wistar Museum of the University of Pennsylvania. One remark as to the diagnosis in this case. The patient first discovered the tumour on the *right* side, and there it remained till it was of such size as to occupy both regions. Although the tumour was multilocular and irregular in form, it could not be discovered to be so, till it was emptied of its contents, and exposed. The irregularity was principally on its posterior wall.

P. S. Dr. Potter sent with this cyst a fibrous tumour of the womb removed from a maiden lady, æt. 43. It was of six years' growth, and weighed with the womb and ovaries which were imbedded in it, 21 lbs. The patient died on the fourth day after the operation from exhaustion.

GENEVA, N. Y., *June 17th*, 1858.

DOMESTIC SUMMARY.

Trephining the Lower Jaw for Neuralgia.—Dr. J. MASON WARREN related to the Boston Society for Medical Improvement the case of a lady, about 40 years of age, who, about eight years since, had a neuralgic attack, commencing in the lower jaw, in the neighbourhood of the right bicuspid teeth. One or two teeth were extracted, but the pain still remained in the jaw, which seemed tender and swollen at that point. The neuralgic attack gradually increased, and the pain spread, affecting a great part of the left side of the face, being, at times, of the most excruciating character. During this time, every kind of treatment that the best directed skill and judgment could dictate was employed, without avail. Dr. W. saw her about four years since, in consultation, and suggested an operation, but she declined it, at that time.

For the last six months previous to the operation, her sufferings were so great as to reduce her strength, and confine her to her room, where she moved only from her bed to her sofa, and for the most part was kept under the influence of morphia. Any movement, even of the air near her, was sufficient to excite an attack. Under these circumstances, every other means having failed, and her strength apparently giving way, she made up her mind to the operation. Dr. Perry, her physician, Dr. Blake and Dr. Oliver, assisted. Being well etherized, the jaw was exposed in the vicinity of the masseter muscle, which, being

raised, a trephine was applied, and a circle of bone removed, about half an inch in diameter. This exposed the inferior maxillary canal. The nerve was now raised on a probe, and as large a portion as the aperture would admit of removed. A slight dissection was now made, and the inferior maxillary nerve, as it issued from its canal, again divided. The uneven and swollen alveolar processes were next removed, by means of the bone forceps. It should have been before stated, that all the teeth in both jaws had, in the course of her disease, been extracted, but without any relief to her sufferings.

Three months have elapsed since the operation, and there has been no recurrence of the neuralgic pain in her face. She has given up her morphia, resumed her ordinary manner of living, and has taken one or two journeys into the country. One symptom from the operation, it may be interesting to state, is the occurrence of neuralgic pains in the different muscles of the body, on being brought into action, after long disuse. These, however, are of a supportable character.

The operation, in this case, may be considered as thus far entirely successful; and even if the pain should recur, the number of months of freedom from suffering, after so many years of torment, will allow the system time to rally, and better support its return.—*Boston Med. and Surg. Journ.*, Aug. 19th, 1858.

Experiments with Bibron's Antidote.—Dr. A. M. Sabal, Riceboro', Liberty Co., Ga., reports (*Savannah Journ. Med.*, Sept., 1858) the following:—

1*st Experiment.*—This dog was bitten just at the sacro-lumbar articulation; was quite thin in flesh, and weak. In four minutes from the reception of the wound, he staggered and fell; from that time, he could no longer support himself; twelve minutes after, he vomited blood freely. I now administered a dose of "Bibron's Antidote." He seemed to revive almost immediately, and attempted to regain his feet, but his efforts proved abortive; fifteen minutes from the administration of the first dose, I exhibited a second (ten drops) of the mixture. He again revived for a few minutes, but could not move. Twelve minutes afterwards, six drops of the mixture were given him. He died in taking it.

This dog died in forty-three minutes from the time he was bitten; there was little or no swelling, his eyes became perfectly green several minutes before death, his tongue contracted to one-half its normal size, and became of a dark, purplish colour.

2*d Exp.*—This dog was fine, fat, and hearty. He was caused to be bitten three times in the flank; did not show any symptoms of uneasiness for fifteen minutes, when all at once he began to swell rapidly, whine, and stretch himself, as if much distressed; ten drops of the Bromine mixture were administered, and he seemed much better. Fifteen minutes after, he began to be quite sick, froth at the mouth, &c.; a second dose was administered, in same proportion as the first; he revived the moment he took it, and has been well ever since, with the exception of a swollen leg, which lasted twenty-four hours, and gradually disappeared.

3*d Exp.*—This dog was caused to be bitten in the leg, in two different places, severely. He immediately became sick, and vomited freely the contents of his stomach; subsequently he vomited frothy blood, and bled at the nose. The antidote was administered, twenty minutes from the reception of the wounds, in six-drop doses, and repeated every ten minutes, until four doses were taken. This dog became perfectly well, but was quite sick for six hours, at the end of which time a fifth dose was given him. His leg remained swollen for two days.

4*th Exp.*—A dog, thin in flesh, but old, caused to be bitten in the side and foreleg. The medicine was administered as in all other cases; he lived thirty hours, and died. This dog was enormously swollen after death; not so with any of the others that died.

5*th Exp.*—A young dog, bitten in the neck. This dog lived five hours, under the administration of the medicine, but, being called off, I neglected him, and was informed he died apparently of suffocation.

6th Exp.—This dog was bitten in the flank, received all attention, but died in an hour and a half.

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Veratrum Viride.—Dr. H. H. Toland, of San Francisco, Cal., states (*Pacific Med. and Surg. Journ.*, March, 1858) that he has found this plant "invaluable in pneumonia, pleuritis, and catarrhal fever, after moderate depletion, and especially applicable to the treatment of these diseases in children, the pulse being diminished from fifty to seventy-five beats in a minute, in ten or twelve hours, without either nausea or any other unpleasant symptom being produced. Upon adults it acts as powerfully, and its effects are as speedily produced; and the pulse may be reduced to thirty-five without either distress or danger.

"Although it cannot be considered a curative agent in typhoid fever, which is the most prevalent febrile disease in San Francisco, the increased arterial action may not only be controlled, but the suffering of the patient and the ravages of the local difficulty greatly diminished, by combining this with other remedies. Recently in the treatment of several violent and obstinate cases the pulse has been kept below seventy, and a more rapid and safe recovery thereby obtained.

"Having administered it alone in one of the most painful and unmanageable of the curable diseases incident to the country, rheumatism, particularly in the acute stage, I have found it more efficacious than any remedy that has heretofore been employed; besides controlling the action of the heart, it relieves pain, and is more decidedly diuretic than even colchicum. When venesection is resorted to in acute rheumatism to diminish arterial action, metastasis to the heart frequently occurs, and that organ becomes incurably diseased, which could not result from the use of the veratrum, by which the same indication can be as certainly and more speedily fulfilled.

"In acute carditis resulting from exposure, in a child 7 years of age, accompanied with the most violent and aggravated symptoms of that formidable disease, the excessive action of the organ was controlled in less than twenty-four hours, and the influence of the remedy maintained until the disease entirely disappeared, without the aid of any other treatment except external irritation.

"If it were useful only in acute rheumatism and rheumatic carditis as well as in acute and chronic inflammations of that organ, it is invaluable, particularly in California, where so many are afflicted, by exposure, with these distressing and always obstinate diseases.

"It has also been highly recommended in gout and gouty rheumatism, but of its efficacy in these affections I am unable, from experience, to give an opinion, as they seldom occur in California, which does not result from the temperance of its inhabitants, but from their great activity.

"As might be inferred from its specific action upon the heart, it is invaluable in active hemorrhage. In one of the most obstinate and protracted cases of uterine hemorrhage that I have ever treated, after every other remedy had failed, the veratrum was administered alone, and the disease was not only controlled but permanently cured. During the convalescence, the precipitated carbonate of iron was combined with the veratrum, and continued until the red globules of the blood were restored.

"Hæmoptysis, accompanied with increased arterial action, is arrested more speedily and effectually by this article, than by any combination of remedies that have heretofore been prescribed, although it does not appear to exert a direct influence over the respiratory organs.

"Although the veratrum is useful to the physician, to the surgeon it is indispensable. In traumatic fever, resulting either from injuries or surgical operations, its specific effect is more speedily produced: a few doses will reduce the pulse, even when greatly accelerated to the healthy standard, at which it can easily be retained until the cause subsides.

"After an operation for aneurism of any of the large arteries, the action of the heart can be easily controlled, by which the danger of secondary hemorrhage is greatly diminished. Instead of being compelled to resort to venesection, to diminish vascular action, which necessarily interferes in a greater or less degree with the restorative process, the effect can be produced and main-

tained until the irritation resulting from the wound subsides, and the system accommodates itself to the derangement of the circulation necessarily resulting from the obliteration of a large arterial trunk.

"This remedy has been prescribed during the last six months in every disease accompanied with increased vascular action, which I have been required to treat, sometimes alone, but more frequently in combination with other remedies, with the same result—and is, when given in doses corresponding with the age of the patient, perfectly safe and reliable.

"Although it may be supposed that I place too high an estimate upon the virtues of the veratrum, I know that I have written nothing but what has been observed, and nothing more than justice to the remedy, and a duty I owe the profession requires. It is useful in the treatment of miasmatic and typhoid fevers, and invaluable in the management of traumatic fever, rheumatism—both acute and chronic—and active hemorrhage, and may be given in cases of emergency as an emetic, although it is neither considered valuable nor proper."

The preparation which Dr. Toland has principally used is Thayer's fluid extract, prepared at Cambridge, Mass. Four drops of this given every two hours has never failed, he says, to diminish the frequency of the pulse.

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Veratrum Viride as an Arterial Sedative.—Dr. T. S. Smith, of Murfreesboro', Tenn., reports (*Nashville Journ. Med. and Surg.*) four cases of pneumonia, in which he gave the veratrum. He states that in his "experience the veratrum does not reduce the force and fulness of the pulse in proportion to the reduction of frequency—that it only reduces the frequency, while the force and fulness seem to assume a nearly normal standard. When the frequency of the heart's action is lessened, the heat of skin, thirst, and pain, consequent upon inflammation, subside, and free perspiration is often induced."

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Sulphate of Cinchonia an economical Substitute for Quinia.—Dr. F. P. Porcher states (*Charleston Med. Journ.*, July, 1858) that he has successfully treated fifty-one cases of malarial fever (intermittent and remittent) in the Marine Hospital, Charleston, with the sulphate of cinchonia. His formula was as follows: ℞.—Sulph. cinchon. gr. x; Morphiæ gr. ½; Acid-sulph. aromat. gtt. x. M. To be given three times a day. Dr. Cain had also previously employed this article in the hospital with favourable results.

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Remedy for Dysmenorrhœa and consequent Sterility.—Dr. E. D. Fenner states (*New Orleans Med. News*, &c., July, 1858) that he has used for some years in the treatment of dysmenorrhœa with great success the following mixture, originally recommended by Dr. Falk, of London: ℞.—Gum guaiac ℥i; Balsam canadense ℥i; Ol. sassafras ℥ii; Merc. corrosiv. sublimat. ℈i; Rect. spt. vini (alcohol) ℥viii. "Dissolve the guaiac and balsam in one-half the spirit, and the corrosive sublimate in the other. Let the guaiac and balsam digest for several days; then pour off the clear liquor, mix with the sublimate, and add the oil. Dose. Ten or twenty drops night and morning in a glass of wine or water, *pro re nata.*"

This was called by Dr. Falk "*Tinctura Antacrida.*"

Dr. Fenner says that he usually directs the patient to begin a day or two before the expected period and take twenty-five drops in an infusion of sage or sweetened water, night and morning, until the discharge is freely established; then cease till the next period. In obstinate and severe cases, the medicine should be commenced a week or ten days before the period; and if the pain appears, the medicine should be taken every four or six hours till relieved. The pain usually disappears as soon as the discharge becomes free; but in most cases the discharge comes on without pain after taking a few doses. I have known immediate relief to be given by a single dose taken in the paroxysm; but I have seen cases in which the pain was excruciating, causing shrieks and even violent convulsions. In such I have had to resort to a more prompt and efficient anæsthetic, as the inhalation of chloroform, or the following, which I have often known to act like a charm: ℞.—Spirit camphor ℥iii;

Chloroform ʒii; Tinct. opii ʒi.—M. S.—A teaspoonful in sweetened water once an hour till relieved.

In violent hysterical spasms there is nothing comparable to the inhalation of chloroform. In the treatment of dysmenorrhœa, it is important to obviate costiveness by the use of aloetic pills. When dysmenorrhœa is relieved by this treatment, conception almost invariably soon occurs in married women.

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Results of Twenty-eight Operations for Stone in the Bladder.—Dr. P. C. Spencer reported in this Journal (No. for July, 1850, p. 103), fifteen operations for lithotomy, and in the *Virginia Med. Journ.* (July, 1858), he reports thirteen more cases, making 28 in all, two only of which were followed by a fatal result. Dr. S. operates with the *lithotome caché* of Baron Dupuytren.

The following table exhibits a few particulars of these cases and their results:—

No.	Age.	Colour.	Urine passed per Urethram.	RESULTS.
I.	4	Black,	—	Died in 12 hours.
II.	17	White,	—	Died on 4th day.
III.	35	Black,	8th day.	Discharged cured on the 30th day.
IV.	18	Black,	15th "	" " 40th "
V.	7	White,	5th "	" " 25th "
VI.	9	White,	—	" " 40th "
VII.	5	Black,	10th "	" " 30th "
VIII.	4	White,	8th "	" " 30th "
IX.	18	White,	—	
X.	27	White,	10th "	" " 25th "
XI.	4	White,	3d "	" " 19th "
XII.	4	Black,	5th "	" " 25th "
XIII.	7	White,	10th "	" " 30th "
XIV.	4	Black,	4th "	" " 22d "
XV.	28	White,	11th "	
XVI.	17	Black,	—	" " 84th "
XVII.	11	White,	8th "	" " 25th "
XVIII.	8	White,	17th "	
XIX.	64	White,	15th "	" " 23d "
XX.	8	White,	13th "	" " 18th "
XXI	10	Black,	10th "	" " 15th "
XXII.	61	Black,	—	
XXIII.	9	White,	30th "	
XXIV.	9	White,	39th "	" " 50th "
XXV.	11	Black,	3d "	" " 30th "
XXVI.	25	Black,	—	" " 75th "
XXVII.	—	White,	1st "	" " 12th "
XXVIII.	20	White,	10th "	" " 16th "

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Extirpation of the Parotid Gland.—Dr. Frank H. Hamilton records (*Buffalo Med. Journ.*, May, 1858) a case of tumour of the parotid gland, in which he extirpated the mass, including the entire gland. Dr. Austin Flint, Jr., describes the microscopical appearances of a portion of the removed tumour, showing the existence in it of glandular structure.

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Removal of the Scapula.—Dr. Geo. C. Blackman reports (*Cincinnati Lancet and Observer*, Aug. 1858) a case of necrosis and caries of the scapula, in which he removed the entire bone with the exception of the glenoid cavity and a portion of the coracoid process. The patient left for home on the 14th day with the wound healed, and having every prospect of a useful arm.

—

Method of Preserving Specimens of Diseased Membranes.—Dr. R. D. Arnold, of Savannah, describes (*Savannah Journal of Med.*, July, 1858) the following method, which he has pursued for the last three years.

"The specimen is well washed, one side is then sprinkled with arsenic, but not too thickly. The piece is then spread out on a pane of glass. The free surface is then thickly powdered with arsenic, which is renewed as soon as it is absorbed—the specimen must be kept in the shade. When it is dry, it is covered with a coat of white varnish. After that has dried, another pane of glass is put over it and the whole is then put in a frame.

"By this method, the specimen is preserved exactly as it comes from the subject."

—

Persulphate of Iron as an Hæmostatic.—Dr. H. H. Toland records (*Pacific Medical and Surgical Journal*, July, 1858) three cases in which vessels of considerable magnitude were wounded, in which he employed with entire success the persalt of iron recommended as a hæmostatic by M. Monsel, Surgeon to the Military Hospital at Bordeaux.

The following are M. M.'s directions for preparing it:—

"Water distilled, 100 grammes; sulphuric acid (69 deg. B.), 10 grammes. Place the above in a porcelain capsule capable of holding one-half a litre. To this add protosulphate iron, 50 grammes. When the salt is dissolved, and the solution has reached a boiling point, add, in small quantities, nitric acid (35 deg. B.), 16 grammes. During this process there is disengaged, an abundance of nitric oxide vapour, which ceases to be eliminated in a short time. As soon as the red vapours cease to be given off freely, there is again added, in small quantities at a time, protosulphate iron, 50 grammes. This second addition of the iron salt, again sets free the nitric oxide; the solution is boiled till this ceases.

"Hot water is now added until the volume of 100 grammes is obtained, and the solution is now set aside to cool, after which it is carefully filtered.

"The solution is transparent, having a deep, reddish-brown colour, inodorous, extremely astringent taste without causticity, and should mark 45 deg. *pese sels*. After thirty-six hours' standing, there is separated spontaneously, an insoluble powder falling to the bottom, and, after it ceases to precipitate, the solution is again filtered.

"The filtered fluid is now concentrated by boiling, to the consistence of honey, when it is poured on to plates of glass in thin layers, and dried in a stove at 35 deg. centigrade (95 deg. Fahr.). When thus prepared it forms reddish scales much resembling citrate of iron; they contain 25-100ths water. If the heat is carried above 100 Fahr., the salt becomes anhydrous, and has a greenish tint. When prepared as directed, it dissolves in water and alcohol without any decomposition. The solution in water with a density of 45 deg. (B.) is capable of dissolving peroxide of iron by long digestion, and loses its colour on the addition of sulphuric acid.

"Its action on blood and albumen is powerful, and on blood somewhat peculiar. It produces with the latter a voluminous clot, *absolutely insoluble*, which continues to enlarge for several hours after its application, and becomes quite hard and firm. The following is the formula by which this new salt is expressed: $5SO_3,2FeO_3$."

This salt, Dr. Toland states, "if applied to a superficial wound as soon as made, not a drop of blood escapes, and no pain results from the application. It acts by producing instantaneous coagulation of the blood, and will be found invaluable in hemorrhage from the mouth, nose, and throat, when it is impossible to ligate the vessels, and may be equally efficacious in alarming uterine hemorrhages, either active or passive. In solution it could be readily applied; it is very deliquescent, and dissolves speedily in water. I hope the profession will give it a trial, as I believe it to be the most valuable article of this class that has ever been discovered."

—

Ovariotomy—the Pedicle severed by the Ecraseur.—Dr. J. L. Atlee, of Lancaster, Penn'a, reports (*N. A. Med.-Chirurg. Rev.*, July, 1858) a case in which he removed an ovarian tumour, severing the pedicle with the *écraseur*. Dr. A. says that with the écraseur to sever the pedicle, and the use of the silver suture

and silver ligature, where ligatures are necessary, he is satisfied that a very large share of the dangers attending the operation will be obviated.

Five Cases of Cataract in One Family.—We have noticed (p. 551) the occurrence of six cases of cataract in the same family, and Dr. H. W. WILLIAMS records (*Boston Med. and Surg. Journal*, Sept. 23, 1858) having met with five cases in a German family, a mother and four children, all affected with cataract in both eyes. The mother was not aware of any other cases among her brothers and sisters.

Dr. W. says he has seen another instance of seven cases in one family.

New Publications.—We have on our table several new works which reached us too late for special notice, and the appearance of which we can only at present announce. They shall be noticed more particularly in our next.

We can congratulate the profession on the issue of a new edition of Watson's Classical *Lectures on the Principles and Practice of Physic.* This edition has been thoroughly revised by the author, and "whatever of value recent researches have added to our stock of knowledge in the various departments of medical science has been carefully incorporated in them."

The American editor has further increased the value of the work by rendering more full and complete the observations relating to the forms of disease which prevail in this country, and by introducing a very large number of woodcuts illustrative of pathological changes in the various organs.

We know of no volume in our language which contains so large a mass of valuable matter to the practicing physician.

There is one point to which we must call attention, the low price at which this American edition is furnished, and which places it within the reach of every member of the profession. This enormous volume of 1,224 imperial octavo pages, with 185 illustrations on wood, is sold for four dollars and a quarter, while the English edition cannot be imported and sold here for less than ten dollars.

We are also pleased to announce the publication of a compendium of the Diagnosis, Pathology, and Treatment of the Diseases of the Urinary Organs, by W. W. MORLAND, M. D. This volume contains the substance of two Essays which obtained the Boylston prizes for the years 1855 and 1857.

Messrs. Blanchard & Lea have also just published a new edition of Wilson's Human Anatomy, edited by Prof. W. H. GOBRECHT. This edition has been thoroughly revised and enlarged, and greatly improved.

We have the gratification also to announce the issue, by Messrs. Blanchard & Lea, of the second part of West's Lectures on Diseases of Women, which completes the work. We refer the subscribers to the Medical News and Library to the publishers' advertisement in this No., which will inform them of the terms on which they can complete their copies of these Lectures.

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SESSION OF 1858–59.

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There will also be an examination of candidates for graduation, on the 1st of July; the Degree, in such cases, being conferred at the ensuing Commencement in March.

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SESSION OF 1858-59.

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